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The Nebraska State Medical Journal

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Some Organic Considerations in Injuries of the Nervous System.

G. Alexander Young, M. D., Omaha.

The present war has provided great opportunities for the mass study of traumatic neurology in both its organic and functional phases. From the functional aspect, the tremendous strain of the fighting line upon the powers of adjustment of the normally acting nervous system has brought before us in great number those morbid nervous reactions which in the development of all the protean symptoms of so called shell shock or war hysteria, signal the failure of adjustment. Organically, the wounds of the nervous system in young and healthy individuals have offered almost laboratory material for the study of nerve physiology and localization; the pathology of nerve wounds and the processes of repair have been revealed in close association with their clinical manifestations and the follow-up study of the army records will doubtless render valuable aid in the elucidation of the relationship between trauma and consequent nervous disease syndromes. Moreover, the indications for treatment of injuries of the nervous system have been more clearly laid down and the surgical technique greatly refined.

It has seemed best for the purpose of this symposium to enumerate briefly some of the organic considerations which must be kept in mind in the treatment of injuries of the nervous system. First, I think we should recognize that nervous tissue is fragile and that neurones once destroyed can never be regenerated. Keeping this constantly in mind we should use every precaution in handling it and wherever possible, never procrastinate. Every case of severe nerve injury should be subjected to a careful neurological examination and as accurate and as early an estimate as possible made of the extent of the injury. Once the diagnosis made and the patient is not in shock or moribund, operation, where advisable, should be carried out at once. By this course, nerve tissue and nerve function

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*Read before the Omaha Douglas Medical Society, November, 1918.

can be conserved that otherwise might be lost.

Injuries of the cerebro-spinal axis may be divided into (1) concussion, (2) simple compression, by bone or hemorrhage; (3) laceration, with or without compression; and (4) traumatic necrosis.

That concussion is a serviceable term to denote fine molecular damage to the neurones and temporary suspension of function is agreed upon by most authorities today. In concussion of the brain, the symptoms of loss of consciousness, rapid pulse, vomiting, cold extremities lasting for a few hours and ending in full recovery are known to you all.

Compression by hemorrhage or bone affecting the brain is also familiar to you in the more persistent loss of consciousness or loss of localized function, such as may be found in an extradural hemorrhage from rupture of the meningeal artery or in a brachial monoplegia due to depressed bone over the Rolandic area. Its signs in compression of the cerebrum are both local and general. The general signs may obscure the local and consist of deepening unconsciousness, often following a free interval of consciousness when due to hemorrhage, slow pulse that may go as low as 40, slowed and deepened respiration, vomiting, increase of spinal fluid pressure above 160 mm of water and cloudiness or swelling of the optic discs.

The local signs are those of motor or sensory loss, generally hemiplegic in nature, unilateral clonic twitches or spasms, inequality of the pupils with the larger pupil on the side of the compression, and loss of the abdominal reflex on the opposite side of the lesion.

Compression of the spinal cord when due to hemorrhage either extra-dural or intradural is generally associated with marked root pains which are not present to such a degree in bony compression. It is impossible always to tell whether a paraplegia is due to a simple compression or to a transverse laceration. Where there is a total paraplegia but with considerable retention of sensory function the condition is more apt to be a simple compression or a moderate laceration. The sensory function seems to be more resistant to trauma than the motor.

It is with the laceration of the brain and spinal cord that we are most concerned, that presents the most difficult problems.

Laceration of the cerebrospinal axis may consist of (a) contusion of a localized area with hemorrhagic softening, (b) of wide spread contusion with multiple small hemorrhages, and (c) of the tearing, crushing form that we associate with a fracture dislocation of the spine or a crushing comminuted fracture of the skull. Laceration of the brain tissue, it is important to remember, may occur without cranial fracture and is due to violent dislocation of its substance. Sharpe has stated that often the degree of brain laceration may be inversely proportional to the extent of the fracture. We should therefore be on our guard not to neglect a case of brain injury because the X-ray shows no fracture.

From a clinical standpoint in injuries of the brain, attendant upon cranial fracture, three main classes of cases appear. First, we have those cases with a transitory loss of consciousness and symptoms which are slight and which do not point to a progressive compression. Operation here is generally contraindicated. Second, we have the cases with prolonged loss of consciousness and the signs of compression without severe shock. These cases should be operated without delay. Thirdly, there are those cases of severe brain laceration with rapid pulse, high temperature and profound shock where operation would only hasten the fatal termination. Experience and a knowledge of the possible forms of lesions that may affect the intracranial contents are of much aid in determining whether to pursue expectant treatment or to operate.

Leaving aside the question of infection with its dangers of meningitis and abscess I want to lay especial stress upon a constant accompaniment of brain or spinal cord laceration, that is oedema.

Oedema is always present following bruising or laceration of tissue and in the fragile nervous system always tends to neurone destruction. With oedema present in the more serious injuries, nerve cells perish that under more favorable circulatory conditions would survive. Not only this but it is a direct menace to life where in wide spread lacerations the oedema develops a swollen wet brain with increase of intra-cranial pressure leading to medullary compression and finally to medullary collapse and death.

Oedema is the main reason for the subtemporal decompression operation in cranial fractures and its presence, as indicated by severe headache, deepening coma, slow pulse and respiration, high blood pressure, blurring of the optic discs and increased spinal fluid pressure, should be closely watched for. It is found in both an acute and rapidly fatal form following closely after the injury and in a chronic form occurring weeks or months after running a course like that of brain tumor. Both forms are amenable to subtemporal decompression and drainage.

Allen of Philadelphia in a careful experimental research has shown how unrelieved traumatic oedema of the spinal cord retarded recovery and promoted softening.

Sharpe's dictum in injuries of the spinal cord is that, except where the fracture of the spinal column is so pronounced as to render it certain that the cord has been completely divided, decompression of the cord by a laminectomy should be employed. Notwithstanding the boldness of this statement, I think he has the logic of the argument on his side. He also recommends that cases of spinal fracture with paraplegia should never be catherized. Massage of the bladder per rectum or vagina or hot rectal or vaginal irrigations will relieve the patient. He has never known rupture of the bladder to follow distention. Cystitis resulting from catheterization of the bladder is often the cause of the fatal outcome of these cases.

A fourth type of nerve injury is that known as traumatic necrosis. Here small scattered areas become softened without hemorrhage. The nerve cells and axis cylinders swell, disintegrate and disappear leaving small sclerotic patches. They are supposed to be due to capillary thromboses. They undoubtedly account for a lowered resistance of the nervous system though they may not call out well defined symptoms until later on. Their presence is simply an additional argument for the prolonged rest and avoidance of strain which should follow a severe injury of the brain or spinal cord.

Head injury in individuals over forty-five should be very carefully watched and a period of complete rest in bed of at least two weeks insisted upon, even in the absence of all symptoms. Slight symptoms of headache, a pupillary inequality, a transitory paralysis or paraesthesia should indicate still more prolonged rest. The precautions are necessary owing to the likelihood of late complications, such as hemorrhage, softening or oedema following anywhere from one to three months after the initial injury. I have witnessed two such cases of late onset of serious symptoms respectively four and six weeks after the injury.

In injuries of the peripheral nerves the important question is whether or not the lesion is complete or incomplete. Upon this decision in a great degree depends the prognosis and the manner of treatment.

Complete division means loss of conduction with degeneration of the peripheral part. It may be anatomical with separation of the nerve or physiological without separation.

Incomplete division means loss of conduction without degeneration of the peripheral segment and may also be anatomical where a part of the nerve is divided, and physiological where pressure or bruising has interrupted its function.

Complete division is indicated by a typical sensory defeat in which the protopathic sensory loss is distinct from the much larger area of epicritic loss, and the affected muscles lose their reaction to the faradic current in 4-7 days and in ten days begin to show a change in the reaction to the galvanic current, the so-called polar reversal reaction. Rapid wasting of the muscles follows the injury. Muscle power under most favorable conditions does not return before the lapse of six months.

Incomplete division is indicated by partial loss to light touch with retention of the protopathic sensibility to pain and extremes of temperature, or where the lesion is more severe, light touch may be entirely lost and protopathic sensibility greatly impaired. There may be complete paralysis of the muscles but the presence of the reaction to the faradic current 2-3 weeks after the injury shows that the muscles will recover power in four to eight weeks time. The faradic current may fail to excite a response in the more severe cases and still the absence of a polar reversal reaction and a sharp quick contraction to a strong galvanic current without polar reversal will indicate an incomplete division and a more favorable prognosis.

To understand the above, an appreciation of the work of Head and Sherren on the sensory functions of the peripheral nerves is necessary. Head divides the sensory qualities of the peripheral nerves into three divisions: First, protopathic; second, epicritic; and third, deep sensibility. The protopathic covers the sense of pain and pronounced degrees of heat and cold. There is a large overlap of this function between neighboring peripheral nerves, so that if one nerve, say the median is cut, the area of analgesia and thermaesthesia is limited, being confined to the two terminal phalanges of the index and second finger instead of extending down to the palm and palmar surface of the thumb, which area is supplied by the median nerve and which is found to be affected by loss of the epicritic sensibility. The epicritic sensibility has to do with light touch, slight variations of temperature and the sense of localization and tactile discrimination. Its areas as represented in the supply by individual nerves do not overlap and consequently in cases of peripheral nerve lesion the areas of epicritic loss are greater than those of protopathic loss. The third form of sensory quality is known as deep sensibility and is supplied by the nerves that pass to the muscles. The pressure sense by which we detect the weight of things on the surface of the skin, the sense of passive position, and of muscular tension as well as of deep pain belong to this category. Because of its being served by sensory fibres that accompany the motor nerves to the muscles it is possible to get a disassociation of deep sensibility from the epicritic or protopathic sensibility in peripherial lesions. The presence of deep sensibility with loss of epicritic sense therefore localizes the lesion below the branching off of the muscular fibres of a nerve.

It is an interesting fact that after complete division of a nerve and suture, sensation to pain and heat may return in six to twelve months while the power of localization and discrimination upon which useful work of the hand, for example, depends may not return for two to three years.

In incomplete division of the nerve the different kinds of sensation, localization, light touch and pain and heat all tend to return earlier and at the same time.

It is particularly in injuries to the extremities that we find those functional or hysterical states so common in railway and industrial accidents which give both the physician and the liable party so much trouble. If the diagnosis is made early and an authoritative statement by the physician given at once that no nerves are injured, we would have far fewer cases of traumatic neuroses consequent on accident. Hysteria thrives on uncertainty. And the diagnosis can be easily made if in the supposed paralysis the faradic current gives a prompt response and the reflexes are normal and if the sensory loss shows no differentiation between the areas of loss to light touch and to pain and presents the familiar glove and stocking type. The characteristic exaggerated behavior of the hysterical patient is also of aid in differentiation.

The matter of operation technique in injuries of the peripheral nerves would require pages in itself but as to when to operate in injuries of the nerves, the following general rules, taken from Sherren, are useful. One should suture the nerves in all wounds where paralysis or sensory loss is present. The presence of motor or sensory loss should be examined for prior to operation. All fractures associated with the signs of complete division should be operated on at once for nerve suture.

Subcutaneous injuries with symptoms of paralysis should be watched for two weeks and then tested. If the signs of complete division are then present, operate.

Incomplete division may occur long after the accident through compression by callus or scar formation. Operation is then indicated with possible resection of the damaged part and suture, or liberation of the nerve from pressure by cicatricial contraction and its protection by cargile membrane may be all that is necessary. The judgment of the surgeon must decide at the time of the operation.

It should be remembered that operation and suture are only the first steps in the treatment of peripheral nerve injuries. The maintenance of a proper position avoiding tension on the paralyzed muscle, massage and electrical stimulation, and above all patience are necessary for the return of normal function.

Traumatic Neuroses.

(Functional Type)

F. E. Coulter, M. D., Omaha.

Just as "charity covers a multitude of sins," so the term traumatic neuroses is used to cover a multitude of nervous conditions, preceded by accidents.

Such neuroses, then as we would consider at this time are those dependent upon, as an etiological factor, some sudden and unusual trauma or shock, either physical or mental, or both. Just here we may state that as a result of the great war, the more recent terms, "shell shock," "war shock" or "war neuroses" have sprung into being to describe various nervous phenomena belonging to the group we propose to consider at this time, the main difference being in etiology, therefore, the only elements really new about these terms and the conditions they are called upon to represent, is the causation. It is another instance only of our learning something new concerning an old disease, they (the terms mentioned) describe traumatic neuroses under different conditions.

The term "shell shock", unsatisfactory as it may be, is probably the more popular and was the first to be used in describing these war conditions. It is a striking term, vivid and terse and is now applied to almost every nervous symptom a soldier exposed to shell fire, develops, that can not be explained by some obviously physical injury. Its unfitness and weakness is that it also is used to describe certain nervous conditions appearing in soldiers who have never been to the front or on the firing line. However, it is not our purpose this evening to discuss the war neuroses especially and while the subject may justly be considered as coming under our title, we think it advisable to defer this consideration until some of the members of our society, now on the other side, return and can give us first-hand, new and fresh personal experiences upon the subject.

According to Moyer, about a century ago, John Abercrombie was the first to write upon this subject and about fifty years later, Erickson also added to the same subject, but both referred more especially to a condition then known as "irritable spine". Another of the early writers was Brodie, who wrote in 1837, but he, like those already mentioned, did not consider the subject in its present comprehensive scope.

In more recent years, the subject has been discussed by nearly all writers of neurological note; it also has been enlarged upon until at the present time, the field is a very broad one, because the fact has been recognized, especially in these later days, that certain psychological elements are to be found present to a greater or less extent in most of the cases, hence, we realize we are dealing actually with a traumatic psycho-neurosis.

In the last decade, psychology has made great advances and especially have the milder psychoses been the subject of much investigation and as a result many of this class of mental states heretofore not recognized, have been found present in patients suffering from other troubles and in no class of patients is this more apparent than those who have been the subject of trauma.

The class of cases we wish to consider, then, is a broad one and of unusual interest, not only because of the neuro-psychological elements present, which are multitudinous in their various manifestations, but because of the neuro-psycho-pathology presented and surmounting this, a medico-legal aspect of great concern, frequently.

In a broad sense, we may say all cases suffering accidents, resulting in nervous states, may be divided into two main groups: First, those cases recognized as having in addition to their nervous symptoms, definite organic changes to be found either some place in the nervous system itself or in other tissues of the body, and, second, those cases devoid of any demonstrable organic changes, whatsoever; in short, the case that for sake of a better term, we denominate "functional." However, whether the case be organic or functional, a certain degree of psychological coloring will generally be found present. It is to the latter group, especially, (the functional) we wish to call attention in this discussion and we will not take your time, interesting as it may be, to mention even the differential points between organic and functional nervous conditions, following trauma.

A careful study of the etiological factors of our subject is of much interest and of no little importance, especially when the later question of treatment is to be considered.

All patients suffering from accidents and especially those who react in a so-called functional manner, enjoy relating their experiences and not infrequently crave sympathy, hence, they can easily be encouraged as a rule into giving as much in detail concerning their accidents, themselves and their surroundings at the time, as the medical man may wish. The only exception to this rule is when they decide the doctor is not in sympathy with them or that he is making the examination in the interests of some person or company hostile to their purpose. Every individual, when a subject of trauma, reacts in a manner peculiar to himself and this reaction is to a great degree based upon his physical well being, nervous tone and the mental state of the particular individual at the time the injury is received. With this broad conception of the etiological foundation, we may realize why the resulting manifestations are so various as well as numerous.

All etiological factors may be divided into one of two great classes, those relating to the patient and those relating to the trauma. Under the former, those relating to the patient, we may mention his inheritance, or inheritant temperament as a primal factor, for we all realize that a patient who is neurotic and unstable will give an entirely different reaction to an injury than one of a stable or more nearly normal nervous organization. Under the same heading we may mention education or intelligence; the broader the education and the higher the degree of intelligence, the less abnormal will be the reaction, is the rule.

The mental tone or state of the individual at the moment he receives his injury also is a strong determining factor in his reaction, if he be in a happy and joyous mental attitude or depressed and gloomy, each will have much to do with the outcome, both as to duration and degree. If he be conscious, semi-conscious or unconscious at the time of injury, are all obviously factors giving much weight to the symptoms as well as to the duration of the condition. Again, the particular region of the body injured is of great importance in determining the outcome. We have frequently observed that a trauma to the head or spinal column gives rise, usually, to a more pronounced neurosis than a like injury received in some other portion of the body, hence, when one has to do with such a case, he may rest assured, nine times out of ten, that the resultant symptoms will be more in number and farther reaching in effect than if some other portion of the body had been involved.

Another point of much importance and one which has been neglected to a great extent, by most writers, is the mental suggestions as to the nature of the injury received by the patient directly after the accident. This is a most important factor both in the organic as well as the functional cases. We may well ask, "why is this so important?" The answer, in part, at least, we believe is because at the time of injury, the patient's mind is in an abnormally receptive condition and all remarks made in his hearing at that time make a most marked and lasting impression. Much needless suffering and worry and many lawsuits would be eliminated if this point were kept clearly in mind by those rendering first aid. When we stop to consider that usually the patient knows nothing of his anatomy or physiology and when he is told that the muscles and tendons have been torn from the bones of his body or limbs, when he is told his back has been broken and possibly his skull fractured and it is a wonder that he is alive at all, such statements at just this particular psychological moment, make a profound impression upon him and his future course of recovery is usually influenced thereby to no small degree. The physician in attendance should exercise much care and this should be of the very wisest variety, when talking to such cases, under the circumstances mentioned. We may say parenthetically just at this stage of the game, many changes are made in medical attendants, because of the wise and truthful statements made on the one hand or because of the unwise and foolish remarks expressed by a medical attendant, on the other; just at this point tact is of the greatest importance.

The litigation status of the patient is supposed to be also a very potent etiological factor in the production of symptoms, as well as the duration of the condition, and while we are willing to admit such to be the case to a certain extent, we believe the statement is many times overdrawn, for the following reasons: Many patients manifest neurotic symptoms following accidents when there can be no possible opportunity for any kind of litigation to follow, again, many patients develop neurotic symptoms before it is possible for them to understand there exists the slightest possibility of litigation, as a result of their injury. That litigation serves to feed and keep alive many of these symptoms, is a foregone conclusion and this is perfectly natural when all conditions are considered. A law suit for the ordinary lay individual means usually considerable concern and worry. He frequently has exalted ideas of his claim for injuries, such exalted ideas being aroused and kept ever in mind by his attorney, with whom he usually divides fifty-fifty.

The great sums of money mentioned in his petition cause him to think he has been injured seriously, and when there is added to this, vast sums for the pain and suffering endured, he commences to realize, if he never has before, the great importance to him of the entire transaction and his own value to the community. As time passes and he realizes there will be publicity and notoriety in connection with his lawsuit, that his name will appear in print, day after day, perhaps, and that he is to be a star performer in it all, for these reasons, if for no other, it is a source of vain-glory as well as one of worry and concern that militates against a cure of his condition.

Under the second group of etiological factors—the accident—we may first mention the nature or kind of accident experienced, for this is of much importance. Those of a frightful character, even if less in extent or serious in damage, produce more pronounced nervous symptoms than those of a more mild nature, even if the actual damage be greater. We do not attempt an explanation, but it seems to be a fact nevertheless, the more grave the results of the trauma upon the individual, the less likelihood is there to develop a neurosis. The development of a neurosis seems in some way to be dependent upon the lighter results of the accident in the individual. The environment at the time of the receipt of the trauma is also a determining factor in the production and duration of symptoms. The time aid is received, if the patient be not rendered unconscious, is also of much importance; of course, here also enters the factor of neglect and general attention following an injury and consciously or sub-consciously it arouses in the injured individual a spirit of revenge or getting even later on; especially is this true in cases that involve corporations or cases that are obviously litigation cases and so recognized by the patient from the start.

Symptomatology.

As has already been suggested, the symptoms one encounters in the traumatic neuroses are multitudinous but upon a careful investigation, we find they may be divided into certain well defined groups. The first of these and perhaps the most frequently encountered, we may designate as the common neurasthenics. These are the patients who complain of lack of nerve force or nerve energy—in short, he has lost his "pep". These patients also generally complain of symptoms that may be distinctly motor or sensory in character, or perhaps a combination of the two in varying proportions. Those of the motor type complain of lack of strength, are unable to do physical exercise or perform their ordinary labor requiring even light exercise. The sensory type on the other hand complain of all sorts of sensory disturbances, numbness, parasthesia, "pins and needles" and often purely neural or neuro-muscular pains of greater or less severity and extent, but generally fleeting as to both character and location. These perverse sensory disturbances have no fixed abiding place and are doubtless due to loss of nerve tone. Many of these cases have become "demagnitized," as it were, so far as their brain and cord and production of nerve force is concerned.

The next class most frequently encountered, perhaps, is the hysteric. These hysterics are not infrequently of the so-called "conversion" hysteric type—that is, an idea has been transferred into a physical symptom—such symptoms may be represented by a paralysis of an extremity, a paraplegia or a hemiplegia. They often harbor also other forms of motor and sensory disturbances, but not at all similar to those just mentioned in the neurasthenic class. They may possess in addition, generally, marked emotional disturbances and they are amenable to suggestion and usual stigmata of the hysterical type is frequently found in their past histories, if looked for. Sensory alterations, if found here are often of the "glove or stocking" variety or patches of anasthesia and analgesia that do not correspond in any way to the anatomical distribution of any nerve or nerves. These patients are not all necessarily markedly emotional and no age, sex, color or "previous condition of servitude" can claim exemption. They form a most interesting group and are encountered when you least expect to find them.

A third group may be termed the psychasthenic, cerebrasthenic or psychical form. Here belongs the anxiety neuroses class. In this group, the symptoms are distinctly mental in character, worries, fobias, all varieties of anxieties and lack of mental power and concentration principally prevail. These are the patients who always "remember that they forgot". They are blue and depressed as a rule and are given to tears, but not the hysterical type that may be followed by sunshine and laughter the next moment. A few of the characteristic symptoms of this class may be found frequently in each of the preceding groups, for it is the exception to find any clear, well-defined type clean-cut and alone, but each case is composed of various combinations, generally including some few from one or more of the others.

Some authors make a fourth group, the mixed, which would be the most frequently encountered of all. That is to say, it is composed, of course, of something from each of the others, the symptoms varying in number and proportions; however, if carefully studied and analyzed, a prevailing type may be found, usually.

The fifth and last class we may characterize as the real "Hun" of them all—the malingerer. He is in reality an outcast and does not deserve to be put in the list at all, but he represents a type and must be placed somewhere. He is the real outlaw, the barbarian. He comes before us as being honest in his claims for sympathy, consideration and investigation, but before he is under observation long, one can readily detect his camouflage. His knowledge of the condition he would simulate is sometimes most astonishing, but if carefully scrutinized it is usually found defective in some important particular and he clearly demonstrates that he is a falsifyer and a cheat. It seems that we have two subdivisions of this group.

In the first group may be placed those cases who have actually received an injury. This serves for a foundation or basis upon which is built their deception and also this fact of an actual injury serves to mislead the medical man at the beginning. In these cases the accident is followed by grossly exaggerated symptoms and finally there is added to those exaggerated ones others that never were present and could not possibly have been the outgrowth of them or the result of the trauma. They are symptoms entirely foreign to the case in every way and are harbored and studied most religiously to serve the purpose of deception.

The second subdivision of malingerers are the wholesale prevaricators. They deliberately falsify from the beginning to the end and they choose a class of witnesses and confederates to substantiate their stories, who are as great prevaricators as themselves. It makes very little difference to these frauds whether they ever received an accident or not just so they have a plausible framework upon which to hang their putrid mass of falsehoods and deception. In medico-legal circles some of this type have been traced through several generations and their histories in these particular classes of crimes are well known in different localities. They are simply liars and the "truth is not in them" and they and their children eke out an existence, suing individuals and corporations and accumulating knowledge of symptoms in order to deceive.

In closing the subject of symptomatology, we may say "litigation symptoms" may be found in any one or all of the symptoms groups just mentioned and wherever present, they will serve to emphasize and heighten all the other symptoms. All types mentioned will be sharpened and emphasized and their duration will be prolonged because of the presence of the litigation possibilities.

Prognosis.

The question of prognosis is of much interest, not only to the patient and his medical attendant, but it also is of paramount economic importance and much financial concern in many instances. The task of securing reliable data upon this point is obviously most difficult and next to impossible. Every author who has attempted statistics has secured them along certain lines suitable to his particular purpose as well as those most readily available for himself. Also all cases and every form of traumatic neurosis have been collected together, both the organic and functional, so it is almost impossible to report anything strictly along the line of our present subject.

Schaller of San Francisco, last June in Chicago, after a discussion along this phase of our problem and an analysis of many series of cases, formulated certain conclusions that seem quite reasonable and worth while reviewing briefly in part, in this connection. He remarks (Journal A. M. A., August 3, 1918):

1. "Traumatic neurosis is a curable affection."

2. "Of the psychic factors influencing the establishment and course of traumatic neurosis, compensation is one of the most important. That it is not, however, the only factor and that so-called 'compensation neurosis' is not identical with traumatic neurosis".

3. "Recoverability is favorably influenced by the following conditions:

(a) If the patient is in a satisfactory environment and not subject to unfavorable suggestions.

(b) Does not have a fixed belief that he has been seriously and permanently injured; that he has received improper medical or surgical treatment and cheated in settlement.

(c) Does not have an organic disfigurement or effect as a result of the accident.

(d) Remains cheerful.

(e) Has symptoms of predominantly neurasthenic nature.

(f) Gets an early lump sum settlement."

4. "The character of the original injury is of little importance in traumatic neurosis."

5. "For a favorable hypothetic case as outlined above, a disability of considerably less than one year might be confidently expected. Added unfavorable factors affecting prognosis so complicate the outlook that a definite fixation of duration of disability may be impossible."

6. "A case of traumatic neurosis existing over one year with marked symptoms affecting earning capacity is to be regarded as one in which there are serious psychic factors present unfavorable to recovery and these factors should be investigated and if possible, removed."

Treatment.

The very first point and one of the greatest importance in the treatment of all of these cases is care upon the part of the medical attendant as to the statements he makes when he is rendering first aid. Many of the traumatic neuro-psychoses are brought into being at this time.

We do not mean by this that medical men are untruthful, but sometimes they forget or fail to realize the damage they cause by a too liberal use of probabilities and thereby entail prolonged suffering and unconsciously lay the foundation for useless litigation and needless doctor bills.

The very best psychic treatment at this time is to carefully guard every word uttered and reserve detail as much as possible for future discussion and this can usually be accomplished by a little tact upon the part of the doctor. This is also best for the doctor, himself, because often upon a more extended examination and reflection, he may wish to alter his original diagnosis a trifle and this affords him the best of opportunities for so doing.

In further considering the question of treatment, it is convenient to divide our cases into two distinct classes, namely, the litigation and the non-litigation classes. Referring to the former, the litigation class, you may conclude from what has already been said, when treatment is to be instituted, that the first and most important step is the removal of all litigation conditions. This we deem an absolute essential and it should be accomplished as soon as possible following the receipt of the injury. We, personally can not now recall a single case of complete recovery so long as probable litigation was contemplated, even as a remote possibility. Some of these litigation cases may improve quite markedly before settlement is complete, but their improvement even, is much more rapid after final adjustment has been made.

Another point of no little value and this applies to both the litigation and the non-litigation classes, is the removal from the possession of the patient, of all the gruesome relics of the accident. We not infrequently see these patients carrying around in their pockets, pieces of bone, a severed finger or toe, or some other portion of their anatomy as a memento of their injury and so long as they harbor these relics of their unhappy experience it is a difficult matter to do the best for them in the way of treatment.

After having removed the litigation and gruesome factors from the case and having placed the patient in as cheerful surroundings as possible, the next step is to analyze the particular case if you have not already done so, determining the particular class to which he may belong, that is, is he a common neurasthenic, a hysteric, a psychasthenic or is he a malingerer, or is he a compound, and having once determined to which class he belongs, the particular line of treatment will be instituted accordingly. This may require rest and often does, isolation, suggestion, re-education, psycho-analysis, massage, hydrotherapy, etc., one or all, in suitable amount as may be indicated.

Improvements in War Surgery of the Nervous System as Applied to Civil Practice.

John E. Summers, M. D., Omaha.

The improvements in the treatment of war injuries to the nervous system are first, better systematization of the handling of the wounded so as to as nearly as possible bring them under the methods of civil practice, and second but not least, the judgment acquired from special experience.

It would hardly seem profitable to discuss the methods by which the wounded are brought from the field in order that these conditions may exist, but as Cushing has pointed out, "with the exception of the more serious injuries or the extensive hemorrhages in which surgical measures would be practically unavailing, cranio-cerebral wounds as a rule present no immediate urgency. A delay of even two or three days in forwarding this class of wounded to a suitable base is preferable to the delay of two or three days in having them recover from the effects of an incomplete procedure before transportation. The well recognized principles in civil practice have been more than emphasized in military practice, that the wounded should have the benefit of skilled neurological, surgical, and X-ray specialists, working together." As Keen says, "an incompletely studied case and an indifferent facility for diagnosis and operation have no place in cranial wounds. The late results of such surgery are lamentable."

Recognizing that these conditions are essential, what have been the improvements in the treatment of wounds of the head?

The literature is becoming so voluminous both in England and France, that it is hard at this early date to be sufficiently discriminative in judging, where there are differences of opinion. The French and Italians are quicker to interfere because of the well-known surgical fact that the longer interference is delayed in gunshot wounds of the head, the greater the danger of infection—an axiom in this war.

For ourselves, however, I think we can be well guided in accepting the teachings of our own surgeon, Cushing, whose name is a household one when we Americans think of our cerebral surgeon specialists. It is from this point of view that I want to tell you something about Cushing's experiences and results and what he thinks about it, and we will discuss only penetrating wounds of the skull, in other words, compound fractures with and without the lodgment of foreign bodies.

Previous to the special study which Cushing made, the accepted mortality in this type of cases was about 50%, and his efforts were practically directed towards improving this mortality rate. Starting out with carefully recording 225 cases which came under the care of himself and his team mates, six died without intervention; the remaining 219 were operated upon. Of these, 133 proved to be dural penetrations. Cushing divided these 133 cases into three classes corresponding with consecutive months of service.

First month, forty-four cases with twenty-four deaths, a mortality of 54.5%; second month, forty-four cases with eighteen deaths, a mortality of 40.9%; third month, forty-five cases with thirteen deaths, a mortality of 28.8%, and Cushing believes that this low mortality can be reduced so that we can hope for a 75% recovery, and I believe, perhaps even more. These improved statistics were not because easier cases were handled, but because of improvement of technic in the handling of these cases.

Briefly, what is the technic?

First, the removal **en bloc** rather than piecemeal, of the area of cranial penetration.

Second, the detection of in-driven bone fragments by catheter palpation of the track rather than by the exploring finger.

Third, in the suction method of removal of the disorganized tissue whose retention, as is the case with dead tissue anywhere, favors infection.

Fourth, in the use of Dichloramine-T in oils as an antiseptic particularly suitable for infections in the central nervous tissues.

In addition to these more essential features of the performance, the routine pre-operative neurological study of the case, stereoscopic X-ray negatives, the shaving of the entire scalp, the invariable use of local anesthesia, preferential radial (tripod rather than flap) incisions, foreign body extraction with the magnet when possible, closure of the wounds with buried sutures in the galea, the dressing of all the serious cases in the operating-room rather than in the wards—all these steps, though less novel, were, nevertheless, contributory to the successful outcome of the more severe cases.

Emphasizing the neurological examination and the X-ray, Cushing says: "It is generally conceded by the majority of those who have written on the subject that serious cranial operations should not be undertaken without a preliminary neurological study. It unhappily is not universally observed. Without such an examination and the careful recording of the positive neurological findings, an operator can never be sure whether the paralyses which are subsequently observed were pre-existent, or were due to or increased by his surgical manipulations. Certainly any immediate post-operative increase in pre-existing symptoms, whether in the sphere of speech, vision, motion or sensation, should be regarded as an evidence of faulty technic. Moreover, if pre-existing palsies, the presence and grade of which except in the profoundly unconscious cases, can easily be determined, fail to subside with considerable rapidity, the fact can be interpreted as an evidence of an incomplete operation, and complications may be anticipated. Furthermore, the question of justifiable opening of an intact dura in the course of an operation, or the need of a secondary operation for symptoms of a presumptive abscess may depend entirely upon the original neurological symptoms and their post-operative increase or subsidence. Stereoscopic radiograms are of course invaluable, not only for the localization of a penetrating missile, but for the detection and enumeration of all in-driven bone fragments."

Technic of Operation—Cushing.

A close hair-cut—do not use clippers as short hairs are apt to cling to the scalp. Use warm soap poultice; shave the whole scalp; sponge with alcohol and mercuric bichloride solution; do not use iodine which may cause post-operative edema and leave the epithelium scaly or encrusted.

Morphia and atropine are given hypodermically one hour before the time of operation, and repeated just before operation if necessary. Fifteen minutes before commencing proposed operation the scalp is infiltrated with 1% novocain and adrenalin (fifteen drops of a 1-1000 solution of adrenalin is added to each 30 c.c.) The injection is made in the sub-aponeurotic layer.

The chief dangers of general anesthesia are a tendency to cause vomiting and hemorrhage.

Flap incisions which leave the wound in the center of the flap are not suitable. "Tripod" incisions skirt the scalp wound and can be undermined sufficiently both for the removal of the lacerated scalp and to allow a trepanation **en bloc**, which should always be carried out instead of the gnawing away of the edges of the bone wound. This trepanation can be done by making four preliminary openings with the Hudson drill or Doyen burr, and cutting between these openings with a De Vilbiss or Dahlgren cranial forceps. Cushing prefers the Montenovesi forceps.

A bulb syringe to which a catheter is attached; this catheter is carefully passed to the bottom of the brain wound; gently allow the bulb to expand and the softened brain is sucked up into the lumen of the catheter; it is expelled from the catheter and the process is repeated until all softened brain tissue is removed. It has been found that the adjoining normal brain tissue will not be drawn into the tube. Sometimes little bits of bone and foreign bodies can be sucked up in this manner.

Extraction with a magnet is the only justifiable method applicable to deep-seated bodies, and can often be accomplished after suction of the tract in the usual method by gently sliding into it to the proper depth a wire nail with rounded point. Contact with the proximal end of the nail is then made with a portable electro-magnet. In proof of this statement Cushing was able to extract successfully in eleven cases in a series in which the missles would otherwise have been inaccessible. Forceps with a fluoroscopic attachment have been devised, by means of which foreign bodies have been successfully extracted under direct vision.

Experience has proven that watery solutions of antiseptics in the brain lead to edema with swelling of the tissue and an increased tendency to herniate. Cushing says, "it was not until the Dakin Dichloramine-T in eucalyptus oil came to be utilized as a routine during the latter weeks of his service that there was a notable diminution in the number of infections. He makes the statement that no thoroughly conclusive bacteriological studies were made though there had been cultures of many of the wounds and of the foreign bodies. Although in such wounds where the foreign bodies and bone fragments removed gave abundant growths after using Dichloramine-T solution, the wounds were closed without drainage and no symptoms whatsoever, followed.

All French surgeons are advocates of very early surgical intervention in war wounds of the head, and they are correct in principle provided proper neurological and X-ray studies of the cases are made prior to operation. From my studies of much of their work I learn that they often sacrifice accurate scientific diagnosis to very early operation because of the danger of infection. In studying statistics of such work I find that Cushing's reverse procedure and the use of Dichloramine-T is followed by a much reduced mortality showing.

It would be interesting and instructive did time and your patience permit, to discuss some of the special types of gunshot wounds of the head—those affecting different parts of the brain; to discuss also the interrelation between the radiography and surgery of gunshot wounds of the head; the indications for and against operation, from neurological findings; the repair of injuries and defects of the skull itself; the results of the traumatism and reparative operative procedures by autogenous bone and cartilage grafts; the value of prepared animal bone as used by Babcock, metal plates, etc.

Trauma to the Cord and Its Envelopes.

I have tried to study carefully the literature of trauma to the spinal cord and its enveloping bony framework, as reported in available English and French literature, and, but for the exception of the exaggerated forces and complicating sources of infection, I find nothing of importance has developed during the war, which changes the opinion of surgeons expressed by their practice before August, 1914. Dogmatic statements are out of place. One set of surgeons seem to believe in the immediate operative treatment of all spinal cord injuries, while, on the other hand, another set looks upon operative procedures as useless in a large percentage of cases—there would seem to be a happy medium position. I have found nothing to alter my own position based upon personal experience, viz: 1. If the immediate symptoms following the trauma are of complete division of the cord, operation is always a failure. 2. If the symptoms are not those of complete division, but are rapidly and progressively so, operation is practically but not absolutely always a failure. 3. If the symptoms are not those of complete division, but nearly so, are early stationary, or only slowly changing for the worse, operation is advisable.

I have personally seen four cases of complete division of the cord by gunshot wound: two post mortem, and two operated by myself without benefit; although each made an operative recovery. Another gunshot wound case operated by me was practically cured by laminectomy. Complete bladder and bowel paralysis and almost complete paraplegia being relieved by removing a piece of bone driven against the cord. In this case I did not open the dura. Of my bone tumor cases and fracture-dislocation cases, several have been encouraging or even brilliantly successful, but none permanently of great benefit to my patients; there have been no cures when the cord has been lacerated; some have been improved.

The principle upon which we divide the posterior central root of the Gasserian ganglion for the cure of tic doloreaux—facial neuralgia—depends upon the inability of this root to undergo regeneration. "This is explained by the fact that the trophic cell body of the sensory fibers is situated in the Gasserian ganglion, that a section of the afferent axon of these ganglionic cells leads to a degeneration of the sensory fibers going brainward. The degeneration of the posterior root fibers will extend to the nuclei of termination in the brain. The posterior root fibers are covered by a neurilemma which disappears as the fibers enter the spinal cord or brain; therefore all the nerve fibers of the central nervous system are incapable of regeneration. Only those fibers provided with a neurilemma have the possibility of regeneration."—(Summers, Treatise on Regional Surgery,—Binnie).

The cases of Estes, Harte-Stewart, and several others, in which the cord, divided by a bullet, has been sutured and regeneration in part restored, can only be explained in that these estimable gentlemen were self-deceived. The regeneration which took place was only, and could have been only through some undestroyed, overlooked elements of the cord. Either this is so or all of our experimental work upon animals means nothing.

I have looked carefully through the literature of Peripheral Nerve Injuries, English, French and American, written by men whose experience prior to the war and during the war entitles their writings to the most consideration—and have selected to present to you what I consider the fairest exposition of the subject—that by Dr. Leo Mayer of New York, who has written a small book on the

Orthopedic Treatment of gunshot wounds, which comprises more meat in its 244 pages than will be found elsewhere.

Dr. Mayer says that in the treatment of peripheral nerve injuries it does not seem to be sufficiently comprehended by the profession in general that this treatment begins not with surgical interference nor ends with the operative procedure. Immediate treatment and that up to the date of discharge of the patient requires painstaking mechanical and postural management of the resultant paralysis. However skillfully surgical intervention may remove all obstacles to the downgrowth of the neuraxes and facilitate their further growth, the return of motor function may not occur unless there has been comprehensive preparation and post-operative treatment. It appears that in warfare surgery primary suture is seldom possible because of the extensive laceration and danger of infection; as soon however, as the primary reaction has subsided and infection has been controlled, the ever present question which before the war, during the war, and up-to-date, has never been satisfactorily determined, presents itself. It is, whether to operate or to wait for the spontaneous return of function in the injured nerve. On this question is the greatest difference of opinion among men of experience, some maintaining that operation should be performed as soon as the operating field is reasonably aseptic; others, that by postponing the operation five or six months a great proportion of nerve injuries recover without operative interference. About this question Dr. Mayer, whose practical and experimental work in this line are worthy of his judgment being accepted as judicious, says: 1. When the symptoms of lesions are progressive operate at once. 2. If the symptoms are regressive do not operate. As an example: It not frequently occurs that when the patient is brought into the hospital there is complete paralysis of the muscles supplied by the musculo-spiral. Three weeks later when the wound is healed, after removing the splint which has kept the hand constantly in the hyper-extended position, a faint flicker of movement may be discernible in the muscle previously completely paralyzed. In this case the prognosis is excellent without operative interference, since the nerve has probably been slightly traumatized by pressure or blood extravasation and has not suffered a severance of its contunity. 3. In other cases where there is no change whatever in the extent of the paralysis or of the sensory symptoms, wait until the wound has healed and then determine on the basis of the anatomical course of the nerve and the direction of the injuring instrument, (let us instance, a bullet)—whether there is a strong probability that the nerve was directly injured by the passage of the projectile; if so, operate; if not, wait still longer. This rule requires the most accurate anatomical knowledge. If observed with care it will seldom lead the surgeon into error.

Dr. Mayer places only relative dependence upon electrical tests in deciding whether operation is indicated. It has frequently been observed during the war that in cases in which all the muscles showed a typical reaction of degeneration and operation was advised by the electro-diagnostician, perfect recovery occurred without operative interference, whereas in other instances in which the electrical reactions were such as to lead an expert to advise conservative treatment, operation showed a complete division of the nerve.

The operative treatment of nerve injury depends upon a knowledge of the physiological processes involved in nerve regeneration. Whatever differences there may be in the present attitude of physiologists and neurologists toward this question—whether the regeneration is due entirely to the downward growth of the proximal stump into the distal, or whether the opposing school is correct in its contention that the sheath of Schwann of the distal stump contributes to the regeneration, one fact is admitted by all—that the conditions for regeneration are most favorable where there is an intimate union between the axis cylinder process of the divided nerve ends. Upon this fact the operative treatment is based. In all instances the operator must try to secure this intimate union between the axones whose continuity has been interrupted. It would be interesting to discuss the different methods of approximation and suture that have been employed for the purpose above indicated. A uniform technic based upon what is the best means of suture has never been developed. Differences of opinion exist but it is certain that the results of nerve suture by present methods are none too good. The technic of preventing adhesions of the sutured area to the surrounding structures has been attempted in different ways. The fascial covering of Dean Lewis has met with some success; experimentally on dogs it is a great success. Operations of this type, however, on normal animal tissue and upon traumatized, devitalized, and inflamed human tissues, are a different proposition. The use of fat, Cargile membrane, muscle, decalcified bone, bloodvessels, egg membrane and similar purposeful materials have all had greater or less success. Gaps between the ends of nerves to the length of 10½ inches have been successfully bridged by grafts taken both from proximal and distal directions, thus proving that the return of nerve function may occur from either direction. Mayer has proven also that a gap in a nerve may be bridged by autogenous transplantation of a multiple segment of a sensory nerve. A most remarkable result was obtained by this method in transplanting the external saphenous nerve in a four-inch gap in the course of the musculospiral, with practically complete return of function.

Among the multitude of unfortunately wounded in this war will be found many instances of nerve injury, and although a great amount of work has already been done and sufficient time has elapsed for a relatively accurate judgment to be formed regarding the repair of such injuries, seen in the early periods of the war, yet a further study of these very same cases with a comparative study of others following, should place the treatment—operative and mechanical—of the nerve injuries of the future, upon a very firm foundation.

Some Whys of Conjugally Conjugated Syphilis of the Nervous System.

S. Grover Burnett, Kansas City, Mo.

The inflection, the bending, the modulation of the pathological trend of syphilis along given tissue lines in families is not a rarity, literature to the contrary.

Syphilis, like tubercle, is a systemic infection. Either, properly implanted surveys the physiologic resistance and attacks the most vulnerable tissues, where the greatest injury may be produced, though the status of other tissues may be maintained against the invading infection. The history story is short, when older physicians of the present day saw whole families barraged with pulmonary, glandular, osseous, or articular types of tuberculosis. So far as we know today, beautiful, fascinating and enchanting theorization of future hopefulness to the contrary, the same may be said of the tissue selection by the organism of syphilis in its toxnic hunism.

The studies to date give two explanations which do not explain why syphilis causes similar clinical pictures of disease of the nervous system in different members of the same family. First, different strains (1) of syphilitic microbes are said to be selective in their fields of tissue invasion, producing a symptom picture peculiar to the damaged function of the tissue attacked; that is, paresis or some modified form of brain syphilis in brain involvement, or tabes or cord syphilis in spinal cord involvement. Second, the presence of an unstable nervous system, a lessened biological resistance, unfortunately mystified as "neuropathy," makes syphilitic invasion of the nervous system a probable fact. Nonne (1) says "Neuropathy plus syphilis equals paresis." Nacke (2) thinks a congenital weakness in brain potentiality plus syphilis means paresis. Osnato (3) says, "Paresis develops only, or more often, in individuals peculiarly predisposed by a peculiar, inate personality." Thus endless quotation could be given in favor of both theories. However, the most apparent cause of paresis and tabes is a susceptible nervous system and a busy specific microbe. Like the negro intern, when asked to explain why his race had ulcers, skin lesions, bone necroses and mucous membrane affections caused by syphilis and rarely ever had tabes or paresis, who said: "Why, professor, they have 'em and they don't have 'em cause you can't splain it."

Prof. Dana (4) long ago taught that the ingress of the organism of syphilis was by way of the blood stream to the lymph spaces of the nervous system. Few of us enlighten ourselves on the brain geography of the lymph spaces (there are no lymph vessels in the brain and cord proper) so we may appreciate the fatal chemical and organic damage to the brain and cord tissue done "quietly through years of apparent health," inaugurating death changes in the neural structures, eventually.

Between the external arterial tunic (the adventitial or connective tissue tunic) and the middle tunic (single layer of circular muscle fibers) is the adventitial lymph space surrounding all small arteries and capillaries of the brain and cord, leaving the brain with the carotid and veretebral arteries to end in the deep cervical glands.

External to the arteries and capillaries is the perivascular lymph space, a space tunneled out of the brain tissue, resting the vessel. It has no lining membrane, but has a neurologia fiber, criss-cross matrix, attached to the vessel wall. This space is continuous with the epicerebral lymph space between the pia and brain cortex.

Around every brain and cord cell is the pericellular lymph space resting the cell and its dendrites. Its diameter is greater than the cell it contains. This lymph space is continuous with and drains into the adventitial lymph space. (Please note this channel connection in studying the migration of the treponemeta pallidae into the adventitial lymph space from the blood current).

The specific organism thrives in the absence of free oxygen. For this reason it seeks the lymph channels, getting away from the blood current and its oxygen content. Once out of the blood current, into the lymph channels, anerobic conditions are facilitated, namely, activity in the absence of free oxygen. The treponemata pallidae pass through the tunica intima into the tunica media, resting in the muscle fibers without producing symptoms (5) for a time, and are as numerous here as in the chancre. Then lymphocytic infiltration follows and displaces the treponemata in this second pathological change; and in the succeeding third stage the plasma cell displaces the lymphocytes. Here, arteritic changes begin. Then comes active connective tissue cell proliferation to patch the injured vessel wall without narrowing the vessel lumen; but if imperfectly patched the intima thickens in its elastic layer with oedema of the endothelial layer, choking the vessel lumen-arterial gumma—causing complete or incomplete brain symptoms like vertiginous or convulsive attacks with palsies, memory lapses, amnesia, speech disturbances, frenzied or manical states plus physical symptoms.

This clinical picture constitutes paresis to the therapeutic enthusiast who makes rosy literature and misleading data. But its not paresis at this time; it is an acute proliferative syphilis, long ago called pseudo-paresis and it usually clears up under any systematized intensive treatment till friends and patient think he is well. Some of these patients return to business for a brief, often unfortunate period, but most of them eventually die of paresis, thus introduced by proliferative syphilis, two to six years later.

But the arterial and capillary damage briefly referred to is only a part of the insidious change in the master tissues washing, nourishing and excreting in the lymph channels. The adventitial lymph space of the arterioles, in its communication with the pericellular lymph channels, brings every brain cell and fiber of the cortex in direct contact with the poisoned lymph stream. The capillaries dilate, new vessel formation takes place, the lymph spaces are widened and choked with lymphocytes, plasma cells and deterioration debris. Here the cortex is dependent on the pial terminal arteroles and the richly associated lymph channels. And here is instituted the molecular lesion, a chemical lesion of nutrition, of the second and third cortical cell layers and the cortical fibers, meaning insidious death of the mind tissues. The perivascular space, tunneled out of the brain tissue around the arterioles, continuous with the epicerebral lymph space directly under the pia, spreads its poison to the delicate nerve strands of the cortex and their supporting frame work, the neuroglia tissue. This neuroglia tissue criss-cross formation in and adjacent to the perivascular lymph space is damaged. The neuroglia is not only the brain supporting frame work, but it is the master repairer, patcher, of injuries to the brain tissue by the process of proliferation, similar in function to the connective tissue proliferation in forming the scar tissue fiber in patchwork repair. So the perivascular lymph space is neurogliaized to occlusion and finally is replaced by a proliferation sheath about the vessel.

Dana, Voght and Alzheimer say "the vascular change with plasma cells is especially characteristic of paresis."

The same mode of attack and the same molecular lesion of nutrition is found in tabes. The microbe and its toxins from the blood current deluges the vessel lymphatics and the serous surfaces of the cord membranes. The cerebro-spinal fluid, the great lymphatic lake system, is polluted. The ideal activity of the treponema pallida is attained in the absence of free oxygen outside of the blood stream. The syphilitic toxins accumulate in the subdural and subarachnoid spaces and the sheath spaces around the nerve roots. The cord membranes are prolonged out over the posterior roots, entering the cord, forming this sheath space which includes the root ganglion outside of the cord in the epidural space at or in the foramin of the vertebra. The membranes here fuse, with the peripheral nerve coverings and ends further exit to the spinal fluid. The toxins infiltrate these spaces, jam them, and insidiously kill these peripheral mental impulse carrying neurous, including the posterior root ganglion, with its "special vascular supply," contrasting the nonvascular anterior roots. The toxins infiltrate the special sheath space of the optic nerve, causing irremedial optic atrophy. Also the exudate in the spaces around the roots of the third, sixth, seventh and eighth nerves is the secret of these cranial nerve palsies—"the exudate in the fluid channel trying to get out along the course of the cranial and spinal nerves."

With the fact before us that syphilis flourishes in the lymph fluids, that the arterial disaster is enacted by the organism enroute to the lymph spaces, that the brain and spinal cord floats and rests in the fluid lakes and that every small interior vessel, nerve cell and nerve fiber rests in a lymph channel and that all are intercommunicating, the wonder is that the central nervous system escapes at all. Again, families living in one mutual intimate hygienic environment, husband and wife growing into and adopting each others characteristics in features, acts and a psychology as one, an acquired evolutional predisposition similarity in tissue resistance and likes and dislikes, is it strange that a single infection cultured under like influences, and bred into all the joys and sorrows of a domestic life time, should be specially variable in its conjugal or conjugated activity?

Conjugally conjugated syphilis is not as rare as the paucity of literature indicates. At the Detroit meeting of the Neurological section of the A. M. A., the discussion of Dr. H. H. Drysdales' (6) paper drew this conclusion. In that discussion I mentioned the four brothers and one son, all paretics, again to be mentioned in this paper. My own private practice records (not public clinics) as an index would indicate that these cases have been viewed only as syphilitic sequelae and if all had been reported, a large literature, in sameness, perhaps, would exist. The following cases of some clinical interest are taken from my records:

No. 1. Four brothers, one wife and one son all died of paresis. The brothers were sons of an eminent jurist of the state supreme court. A maternal grand aunt had a depressive mental attack during the climateric but recovered. Their mother, nearing the evolutional period, developed some light mendacity, a love for youthful colors, attractive dress and a varied gaiety and depression of mind with hate and temper blowouts and mild apprehensions and fear, that kept her learned husband deviled half to death in anticipation of what she might do next to add to his home discomfort and especially by her delusionally tinted gossiping embarrassment; not materially differing psychologically in this epoch of life from most of women half of the time and half of the women most all the time—with variations. If this is "neuropathy," neuropathy was present here. Otherwise the family history was negative.

Fearing over study as a cause of the mental trouble in the three older collegiate brothers, the father allowed the youngest son only a business education, not knowing the multiplicity of purchasable chancres of the under-graduate days of rich mens sons. These four sons each were infected while in college from different sources. The oldest son married, at 23 years of age, a girl of 20 years of age. A year later a son was born. Still later four different miscarriages are recorded. At about 41 years of age the father developed paresis. At about this time the 17-year-old son developed juvenile paresis and some two years later the wife, at 39 years of age, began showing paresis.

The other three brothers became paretics at 26, 30 and 36 years of age, respectively. Of some interest to those claiming that an individual or family personality tends to fix the symptom type of the psychosis may be this: That of the four brothers, the wife and son the mind deterioration picture was practically one; at no time in either patient was there any irritable, boisterous, excitable violent or halluninatory mental outbreaks interwoven with grandiose millions; but in all, there was the gradual onset of memory limitation, memory deterioration with scarcely an irritative mental symptom; with that mild roseate grandeur state of well being and good nature, always "well," always "fine;" but along with the mind deterioration picture was the marked physical symptoms of paresis with some tabo-paresis in the three younger brothers.

No. 2. In 1888 Mr. J., 38 years old, was admitted to my service with paresis. He had a chancre when 22 years old. Married one year later. The wife had three miscarriages but no living children. In 1889, one year following the husband, the wife began showing paresis, succumbing eight months later. In these, like the four brothers, there was the low, non-irritative mental manifestations plus the physical signs of paresis.

No. 3. Mr. M., age 46 years, died of paresis in 1900. In 1901 the late Dr. Tyree referred Mrs. M., age 40 years, to me. She was unaware of having had syphilis. Her 14-year-old daughter, under Dr. Tyree's care, had just recovered from a specific iritis.

Examination.

The deep reflexes were generally active but not significantly pathological. Pupillary reactions were normal. Physically and mentally, she appeared well except recent nocturnal headache, disturbing her sleep and making her irritatively nervous. Three days before seeing her, a blurring of vision occurred, blending into a double vision. The right eye showed palsy of the external rectus with internal strabismus. A very slight weakness of the right face musculature was evident but not yet detected by her. Three days later a complete right facial palsy was present, drooling of saliva, inability to close the eye or corrugate the brow.

Diagnosis.

Gumma involving the sixth nerve nucleus, catching the seventh nerve in its semi-circular exit around the sixth nerve nucleus.

Remarks: She improved so rapidly under treatment that she soon decided she was well and discontinued treatment. I saw her no more for a year and a half when she hurriedly called saying, "the old trouble has returned on the other side." Examination showed her diagnosis was correct. The left sixth and seventh nerves were involved, giving internal strabismus with diplopia, and a facial palsy. She now submitted to a prolonged medication. I saw her at intervals for the next five years. She still remains well, now nearing 59 years of age.

No. 4. In 1902 Mr. B., aged 48 years, experienced some unwifely climateric resentments, misunderstood as unacceptable conjugal infelicity. In fancied rejection he side-stepped marital obligations. Dr. Phillip Kanoky treated his chancre. Two years later he came to me with incipient tabes. Three years after his chancre I treated his wife for spinal syphilis. A 17-year-old daughter and the wife were inseparable. During the wife's treatment the daughter came under my observation and was referred to Dr. Konaky to be treated for syphilitic ulcers of the mouth and throat. Excepting a little spactic, paraplegic weakness, not noticeable to ordinary observation in walking, the wife apparently recovered. The husband's tabes became stationary, with knee jerks lost, only slight sensory disturbance remaining and very little defect in the ordinary movements of walking.

No. 5. In 1912 Mr. G., aged 28 years, was admitted to the sanitarium with the acute, irritable, boisterous and lewd delusions of acute paresis plus periods of violence. He had a chancre 8 years ago. One year previous to admission to the sanitarium, one leg was amputated as a result of a railway injury. In spite of vigorous treatment he died in six months. His wife showed a four plus blood Wassermann without clinical symptoms. She was nursing a seemingly healthy babe four months old. She then received the first treatment for syphilis. The child at this writing is now 6 years old and is recovering under treatment of Dr. Gosney for syphilis, from an interstitial keratitis that looked to be irrecoverable when first seen. The mother, remarried, has just given birth to a healthy child and seems well, no Wassemann made.

No. 6. Of fifteen wives of paretics, ten gave positive blood Wassermanns. Of the ten, clinical manifestations of syphilis were present in five; three were treated for syphilis. One wife with a plus Wassermann, without other clinical evidence, brought her 6-year-old child to be treated for epilepsy; I treated him for syphilis. Eight years later he seems quite well.

In summarizing this disconnected clinical citation the discussion points to:

First: The rarity of conjugal or conjugated family syphilis or not?

Second: Whether husbands and wives develop alike the same disease, that is, paresis, tabes or nervous syphilis and does the nervous reaction of the disease picture similar symptoms or not in each?

Third: Whether a special strain of spirochetes are selective in their action on the nervous system, whether a non-resisting nervous system seduces the spirochete or, are both conditions prime factors?

Judging from the scarcity of the literature on the subject, as stated, conjugal or conjugated family syphilis is rare, but my own cases, surely not differing from those of others, do not warrant accepting the statement as a fact.

As to question two, the four brothers, the one wife and son all reacted nervously, alike in the one symptom picture. And all the brothers were infected from different sources. It would be remarkable that all should be infected by the special, nervous system loving organism but it is not remarkable that the brothers were all much alike, hereditarily, in their personality, a peculiar tissue likeness, biologically, in their make up. Again, the wife and son by inheritance had a right to differ from the brothers biologically and their nervous reaction to the organism might be different, yet they and the husband, the father, were all infected from one source which might argue in favor of the special strain of organism as they again reacted nervously to the organism to make the one symptom picture.

In my case report two, the husband and wife both had paresis, one closely following the other, from one infection source, the symptom reaction being much the same and both succumbing in a short time.

In my case report three, husband, wife and daughter, infected from one source, all reacted differently to the organism in different symptom pictures yet in all the nervous system was involved namely, paresis, brain syphilis and the iritis, the eye being a receptive nerve organ.

In case report four, husband and wife, one infection source, the nervous reaction was similar, one tabes, one cord syphilis, but, clinically, the symptom pictures differed diagnostically.

In my case report five, husband, wife and child, one source of infection, the husband reacted nervously in a violent symptom picture, the child, eye attacked five years later, the mother with a four plus Wassermann remaining well after treatment but who never had known primary, secondary or tertiary manifestations, therefore is in a fair way to have nervous syphilis if the disease ever shows itself.

As to question three: Osnato (3) says in nine out of twelve cases of paresis "the influence of the personality in determining the character of the psychotic reaction is conclusively shown;" that of thirty-seven paretics, twenty of the mentally reactive type occurred in persons of abnormal make-up; "that paresis occurs by preference in neurotic persons." Reasoner (7) thinks there are strains of organisms having an affinity for the nervous tissue but also that the individual resistance of the infected persons tissue is a factor in the development of the disease.

Adler's idea of an organic inferiority, that the neurotic is an inferior and that the inferiority of the nervous system marks it a victim for a syphilitic invasion. Experimentation on rabbits by Reasoner (7), Weygandt and Jakob (8) show that the strains of spirochetes do produce nervous syphilis every time, sometimes; other times not. Thus we are back to the negro intern's conclusion that "they have 'em and they don't have, cause you can't splain it."

1. Dercum—Mental Diseases; p 258.

2. Throckmorton, T. B.—Conjugal Tabes, A. M. A. J., May 12, 1917; p 1389.

3. Osnato, M.—Personality in Paresis, A. M. A. J., Feb. 16, 1918; p 434.

4. Dana—Nervous Diseases, 8th edition; p 272, 273, 411.

5. Dennie, C. C.—Syphilitic Enderteritis, Trans., Kansas City, Jackson County Medical Society, Jan. 22, 1918.

6. Drysdale, H. H.—Conjugal Syphilis, A. M. A. J., July 29, 1916.

7. Reasoner, M. A.—Some Phases of Experimental Syphilis, A. M. A. J., Dec. 16, 1916; p 1794.

8. Weygandt & Jakob—Warum Werden Syph Nervenkrank? Dermat Wchnochr, 1914, 18, 150.

The Roentgen Ray in Diagnosis of Bone Pathology.

A. P. Overgaard, M. D., Omaha.

The most exact method that we have today, for arriving at an accurate diagnosis of a bone lesion, is the Roentgen ray.

The Roentgen ray of bone pathology, must first consider an exact knowledge of the normal bone structures and the interpretation of such shadows. This resolves itself into a careful study of the various bone shadows and the density of the bone under consideration. Therefore a Roentgenologist must be able to make radiograms so exact, that it will show the normal structures, and such pathology as is present in the bone. The radiograms must not be either under or over exposed, or valuable data will be blotted out.

By this method can be shown the bony structures and any abnormal condition that is present. The clinical, pathological, and physical condition must be considered in interpreting a given radiogram. The Roentgenologist must be able to differentiate the normal, from the abnormal condition, and point out to the surgeon, such facts as are found in a radiogram.

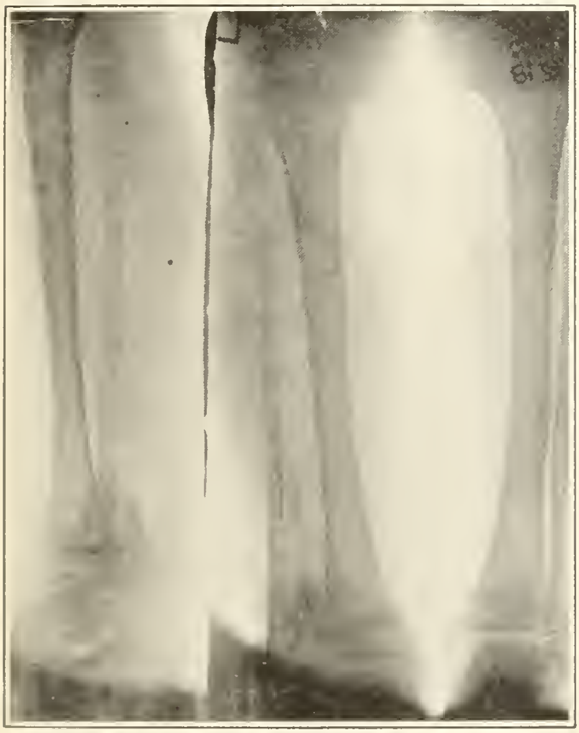
The present war is developing a better cooperation between the surgeon and Roentgenologist, and thus improved results can be obtained for the patient.

In making a diagnosis of bone diseases, the Roentgenologist must have a knowledge of the laws governing physics and know the normal, as well as recognize changes due to age and the variations of the individual.

A fundamental law of Roentgen ray is that the radiogram is recorded according to the specific density and thickness of the parts under examination. The rays diverge as they pass from the anodes of the tubes, and it is only the central rays that give the true image, while the outer rays of the cone may produce distortion of the shadows.

The distance of the part to be examined, as well as the tube distance, must be taken into consideration when interpreting the radiograms. This accounts for many mistakes, not only of the physician and surgeon, but also of the Roentgenologist. Many who interpret their own radiograms, are not familiar with the variation in density of the bones, due to age, nonuse, or diseases, nor do they know the appearance of the epiphysis that is ossified, as seen on a radiogram.

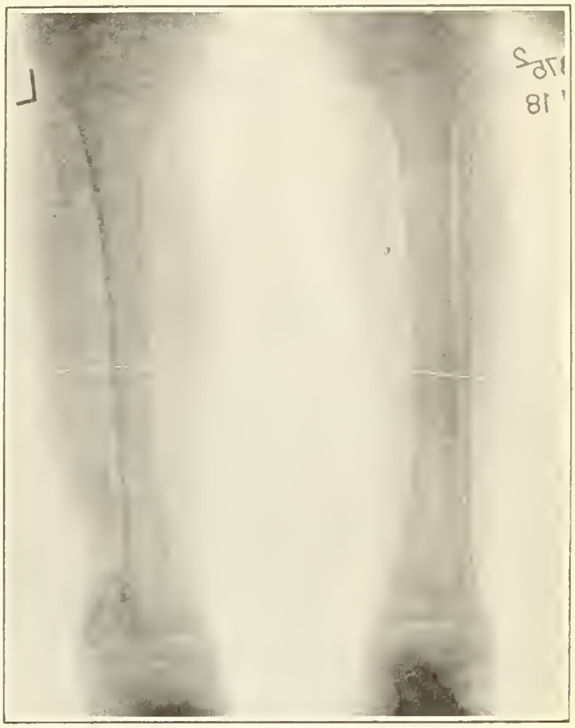
I shall show a small number of lesions of the bone, but shall not try to cover all the bone conditions, that are brought to our attention.



Case No. 1 (2375). Boy, age 5. Acute Osteomyelitis (before operation). Left fibula.

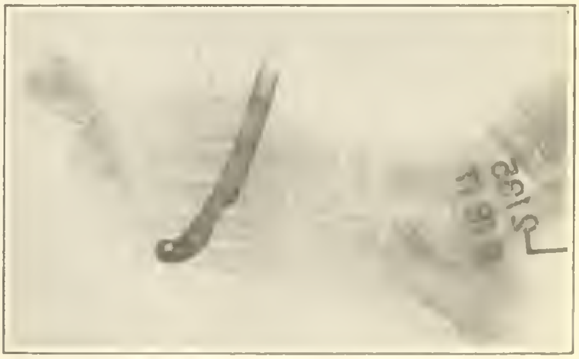
Case No. 1. A child, age 8, received a blow on the left ankle. Six or seven weeks later, it was taken to Dr. J. E. Summers, who had this radiogram made. Radiogram shows rarefaction, indicating softening of the bone, with loss of lime salts. It shows new bone formation at the periphery. There is an entire honey-combed condition of the left fibula, except at the epiphiseal ends. This is a characteristic point in acute osteomyelitis.

The next Roentgenogram shows results six weeks after the operation, in which all the diseased bone has been removed. You can see new cells forming, and nature endeavoring to form new bone.



Case No. 1 (2375). Boy, age 5. Acute Osteomyelitis (after operation).

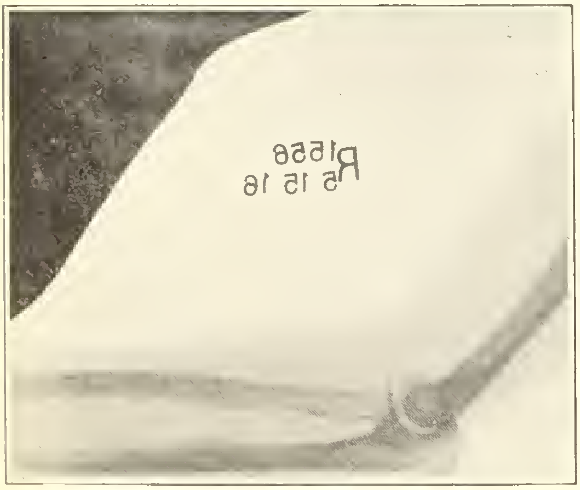
When the destruction or the thickening of the periostium has not advanced enough to make a definite shadow, it is not a safe point to depend upon the ray alone in order to arrive at a diagnosis. Make it a rule to take a radiogram of both limbs, so that an accurate comparison can be made. This is very important, especially in children, as the epiphyseal lines vary in children of the same age, and that point must invariably be considered.



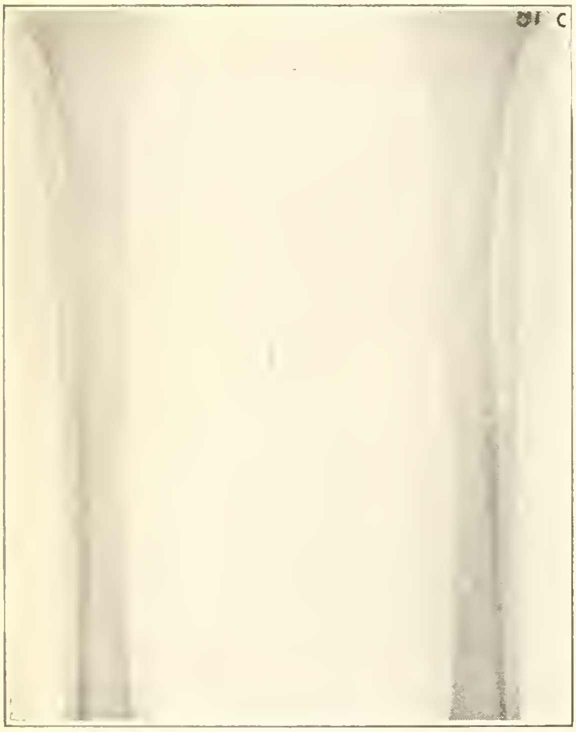
Case No. 2 (2135). Boy, age 5. Acute Osteomyelitis (with drainage tubes). 1st meta tarsal bone.

Case No. 2. A boy, age 5 years, referred by Dr. A. C. Stokes. You will note the drainage tube under the first metatarsal bone. This bone shows an enormous enlargement of the periostium and cell proliferation. This is another example of acute-osteomyelitis.

Case No. 3. A young man, age 21, referred by Dr. Wightman, shows distruction of the periostium on the inner surface of the left femur. Clinically he had a sinus discharging just above the knee joint, yet this bone was affected up near the lesser trochanter. This is an old case of osteomyelitis of several years standing.



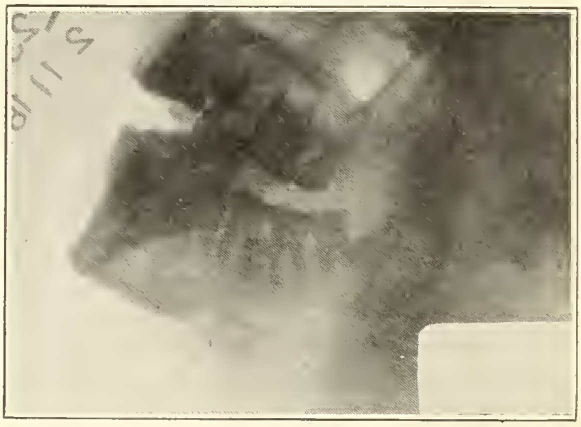
Case 4 (1556). Osteitis following typhoid fever.



Case 4 (1556). Female. Osteitis following typhoid fever.

Case No. 4. A young married woman, referred by Dr. R. W. Bliss. This is a very interesting case as it followed an attack of typhoid fever. Both the right ulna and the right tibia show small localized spots in the shaft of the bone, probable abscess or necrosis of the bone. This is a typical case of osteitis localized in the long bones.

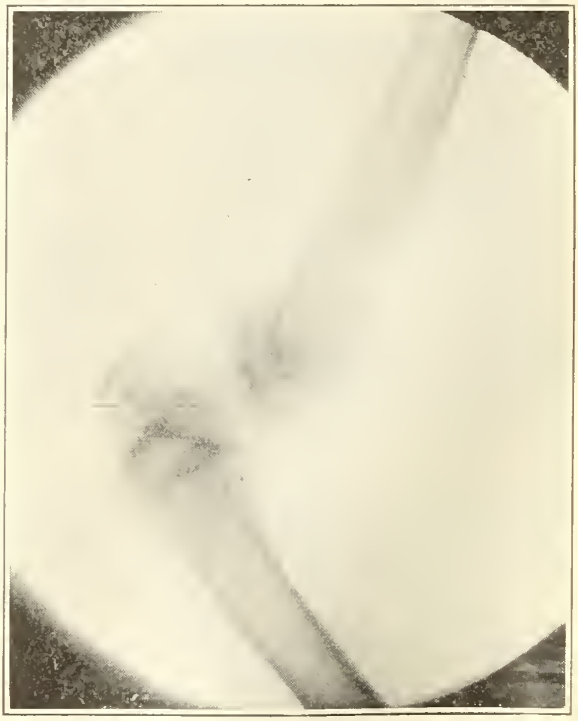
Cases No. 5 and 6. By the courtesy of Dr. W. E. Wolcott, I will show you a case of periostial sarcoma of the lower end of the femur, complicated with a fracture.



Case No. 8 (23). Male, 56 years old. Cancer lower jaw.

The other case is a periosteal sarcoma of the shaft of the femur, near the greater trochanter. You will note the great amount of bony exudate that is shown.

Case No. 7. A lady about 60 years old, referred by Dr. A. C. Stokes. She has a history of thirty



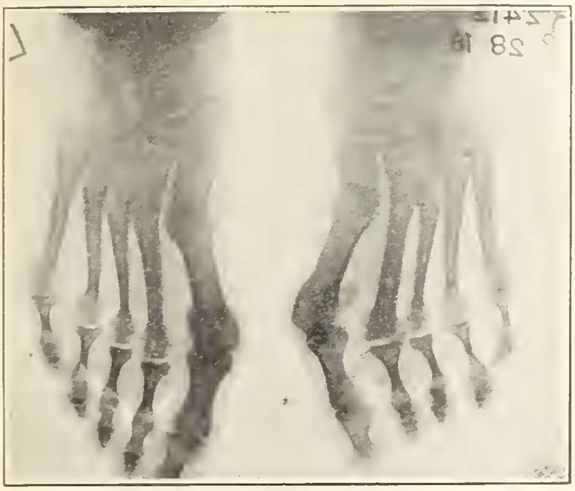
Case No. 10. Boy, age 15 years. Hereditary Syphilis.

years duration. Radiogram shows large osteosarcoma of lower end of femur.

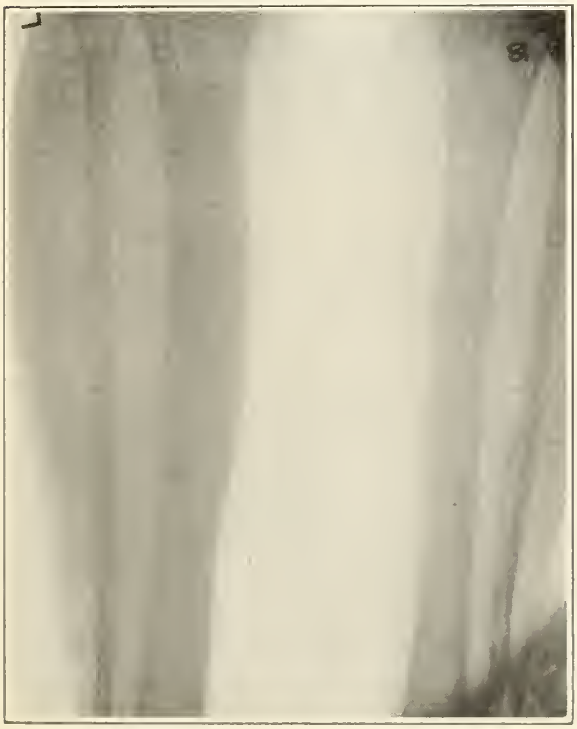
Case No. 8. Man, age 56 years, cancer of lip. Removed by paste two years ago. Referred by Dr. B. H. Harms, because patient wanted tooth extracted. Radiogram shows distruction of lower maxillary bone. Diagnosis carcinoma of lower jaw.

Case No. 9. A young man, age 31, referred by Dr. E. C. Henry, shows thickening of the lower end of the tibia. This appears to be symmetrical and is no doubt due to syphilis.

Case No. 10. A very interesting case of a boy 15 years old, referred by Dr. E. C. Henry. There has been a softening of the upper end of the tibia. This is a Charcot's joint and no doubt, is a case of hereditary syphilis.

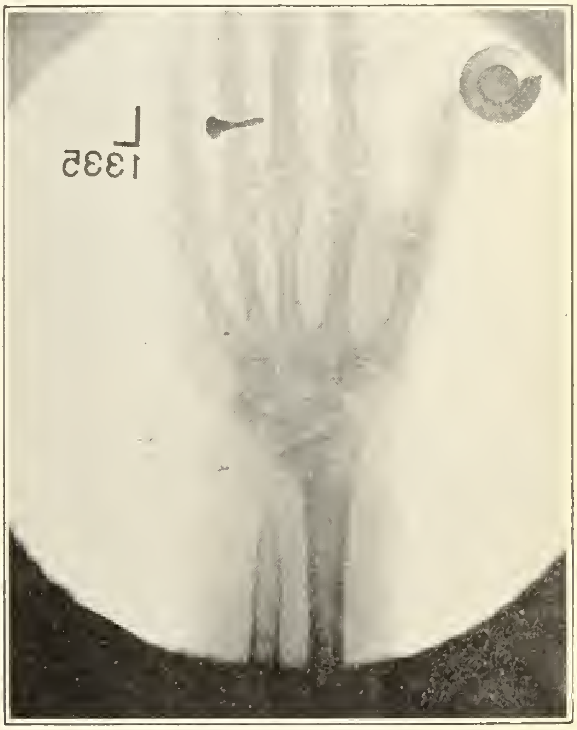


Case No. 11 (2412). Female. Osteitis, result of hereditary syphilis



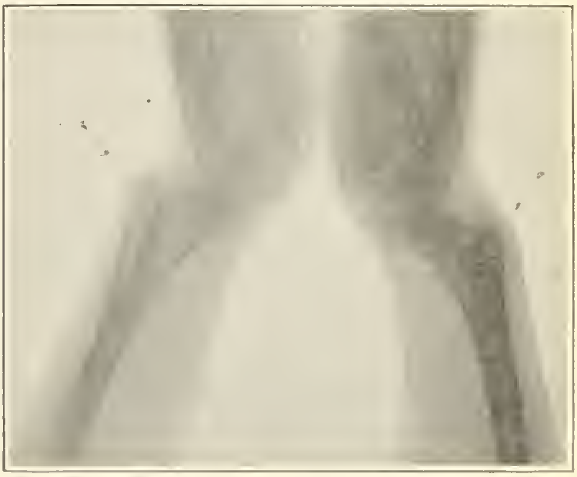
Case No. 11 (2412). Female. Hereditary Syphilis, thickening of tibia.

Case No. 11. A young lady, referred by Drs. R. W. Bliss and E. W. Powell, for a radiogram of her foot. You will note the distruction of the metatarsal bone where it articulates with the tarsus and this has been transformed into granulation tissue. This has become friable, thick and irregular.



Case No. 12 (1335). Female, age 60 years.
Artheitis distal end of ulna, fracture of radium.

The next Roentgenogram shows the condition of the tibia, with well marked symmetrical overgrowth of the whole tibia bone. This is another case of hereditary syphilis.

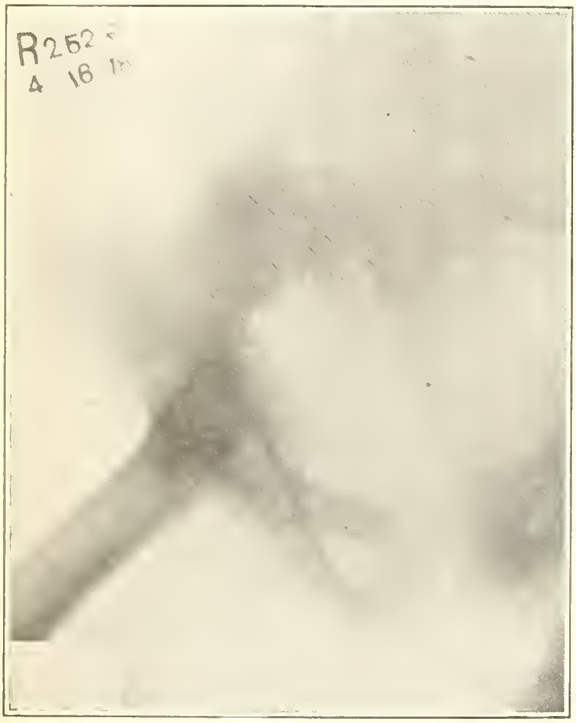


Case No. 13 (261). Girl, age 14 years. Madelung's deformity.

Case No. 12. An old lady about 60 years old, referred by Dr. J. M. Schramek, for a radiogram of an injured wrist. She of course has a fracture of the radius, but also an arthritis of the ulna, that has completely absorbed the lower end of it.

Case No. 13 (261). Girl, age 14 years. Madelung's deformity.

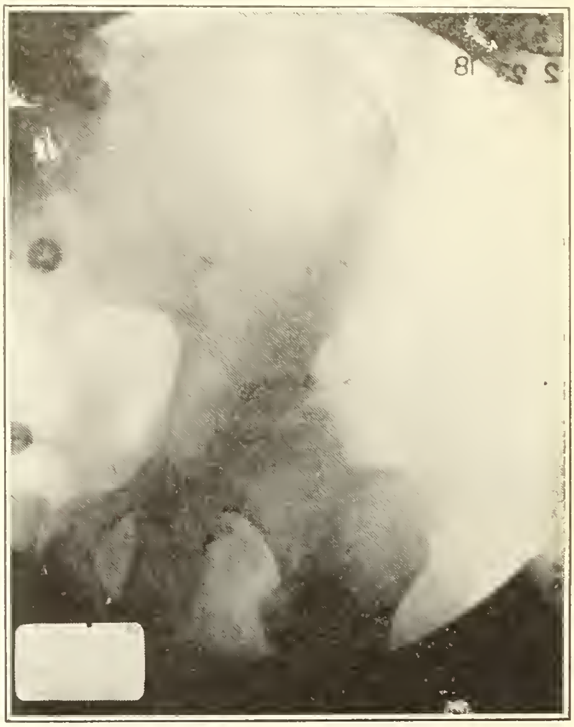
Case No. 13. A young Swedish girl 14 years old, referred by Drs. G. W. Rathbun and A. E. Buchanan. She has softening of the distal ends of the ulna and radius of both arms. She has no pain, but as you see a peculiar deformity. This is a case of Madelung's disease, and is very rare condition.



Case No. 15 (2522) Male, 19 years old. Tubercular Hip.

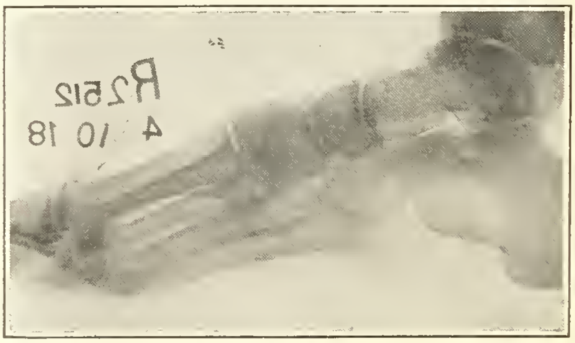
Case No. 14. A young girl fourteen years old, referred by Dr. Lukens, shows rarification of the head of the femur, with a hazy appearance of the acetabulum. No proliferation of new bone found. Note tilting of the pelvis. This is a beginning tubercular condition of the hip, of only two months standing.

Case No. 15. A young man nineteen years old. History of having worn a plaster cast for several months, three years ago. Referred by Dr. Morris Nielsen. Radiogram shows complete absorption of the head of the femur, with a breaking down of the acetabulum, giving the appearance of the shaft of the femur protruding into the brim of the pelvis. The greater and lesser trochanter are also partly absorbed. This is an old tubercular hip condition.



Case No. 16 (2401). Male, age 30. Old Perthe's Disease of Hip.

Case No. 16. A young man about thirty, referred by Dr. D. T. Quigley. He gives a history of hip joint trouble when about ten or twelve years old. Now he has a shortening of the right leg. In the radiogram made of hips, the right femur shows a typical flattening of the capital epiphysis, which is



Case No. 18 (2512). Lady, 50 years. Large Spur on distal end of meta-tarsal bone. Painful when walking.

greatly reduced in height and increased in width. The epiphysis is quite dense and areas of increased radiobility. This is a typical Perthe's disease of childhood.

Case No. 17. Radiogram shows a sarcoma of the ilium, ichium and sacrum. Large, round areas very dense. This came on about a year ago. This is no doubt secondary sarcoma of bones.

Case No. 18. A lady, age 50. Radiogram shows large spur on the distal end of the metatarsal bone of the right foot, on the internal surface. This is of long standing and is painful when walking. Diagnosis, exostosis of bone, due to wearing tight shoes.

Conclusion.

1. That the roentgen ray is to-day, one of the important aids in arriving at an accurate knowledge of bone disease.
2. That clinical findings must be carefully considered in every case.
3. That early bone disease gives no definite roentgen findings, because no change in the bone structure has yet taken place, as for example, tuberculosis and acute osteomyelitis.
4. This is a comparatively new aid to diagnosis and no chagrin from a mistaken diagnosis, should dishearten the Roentgenologist. Remember that occasionally, the pathologists disagree when they have access to the specimens.
5. That every suspicious bone condition should have the benefit of careful roentgen examination.

Roentgen Diagnosis of Intrathoracic Lesions.

Carl H. Ballard, M. D., Omaha.

Perhaps a more appropriate title for this paper would have been the roentgen ray as an aid in diagnosis of intra-thoracic lesions as in the great majority of cases clinical findings should be carefully considered. However, there is a certain per cent of cases in which a correct diagnosis can be established by means of the roentgen findings alone, one for example of which is an oesophageal diverticulum. In nearly all cases the X-ray is a distinct aid in eliminating or detecting intra-thoracic pathology helping to corroborate and amplify the physical diagnosis. In this paper I will not consider pulmonary tuberculosis as that subject alone would require a lengthy article. I will take up only a few of the conditions in which roentgen findings give us valuable information. Some physicians as well as surgeons argue that the roentgen examination is too expensive but I have noticed that this argument comes from the medical fraternity oftener than from the laity. The patient is usually willing to pay a reasonable sum for any method that has a distinct advantage in helping to establish a correct diagnosis of his case. In fact it is always more expensive for him to delay in getting positive findings as much valuable time is lost either from a therapeutic or surgical standpoint.

I will first consider cardiospasm and carcinoma of the oesophagus. These two conditions are met with rather frequently. Personally I have seen more cases of oesophageal malignancy than of spasm, although the spasmodic cases occur most often. Cardiospasm is most frequently found at the lower end of the oesophagus at the point where it passes through the diaphragm. There is a marked dilatation of the gullet which is readily shown by giving the patient several swallows of a barium mixture while fluroscoping him. The borders of the shadow cast on the screen or roentgen plate are smooth, regular in outline and the dilatation is conical in shape. In carcinoma the dilatation is usually not so marked, the borders are irregular or ragged in appearance and at times a faint outline of the surrounding growth can be seen. Carcinoma is rare in the upper third of the oesophagus. One should keep in mind the possibility of diverticulum and that this condition is seen most frequently at the junction of the pharynx and the oesophagus were anomalies in the brachial clefts may be a possible causative factor. I am reminded of a case in a middle aged patient who had difficulty in swallowing. This was thought for some time to be spasmodic as he was extremely nervous with a constant fear of impending death. He began losing weight rapidly and all of his symptoms grew worse when naturally malignancy was thought of. Roentgen examination disclosed a diverticulum the size of an egg at the level of the supra-sternal notch. This was removed at operation, the patient regained weight and returned to his occupation. Diverticulae rarely become malignant.

The heart is another organ about which the roentgen ray will give us important data. In all cases of syphilitic aortitis we either have a broadening of the aortic shadow or a transverse position of the heart. Dilatation of the ascending aorta is in the majority of cases specific in origin but may also be due to aortic insufficiency which in turn is due in a certain per cent of cases to endocarditis. Aneurism is conceded to have a luetic basis but is not nearly as common a condition as formerly thought. Wesser says "one of the most important facts in the diagnosis of aneurism is that the heart is neither dilated nor hypertrophied unless there is a complicating nephritis or a valvular insufficiency." A dilated aorta with a prominent arch producing episternal pulsation is not a true aneurism, in fact aneurisms often show but slight pulsation due to thickening of the wall of the aorta and to loss of elasticity.

Many cases of true angina pectoris show a dilated ascending aorta with increased pulsation. Screening the patient from different angles aids us in deciding whether aneurism is present or not. In pericarditis the heart outline is frequently observed with the size of the shadow cast depending upon the amount of fluid present. Another important sign is the persistence of the cardio-hepatic angle which in a greatly dilated heart is obliterated. In other cases the heart shadow may be seen surrounded by the fluid. The fluroscope may show pulsation while in a dilated heart without effusion it may show none at all. A case illustrative of this was a male patient 41 years of age who had a large pericardial effusion with syphilis as a cause. The roentgen plate showed a shadow that extended nearly across the chest which however did not obliterate the cardio-hepatic angle. Pulsation was visible on the screen although a heart shadow within the fluid could not be made out. The roentgen shadow is also quite pathognomonic in the rather rare lesion due to persistent ductus arteriosus or ductus Botalli as it is sometimes called. This lesion is characterized by a greatly dilated pulmonary artery showing exaggerated pulsation. In my following reports I will give a more detailed description of such a case.

Occasionally one is called upon to examine a case for substernal thyroid. Whenever a patient presents symptoms that may be attributed to pressure upon the trachea one should keep in mind the possibility of this disease which may be due either to a direct enlargement of the gland or the growth of an accessory lobe. If due to the former it is shown upon the plate as a broad bilateral superior mediastinal shadow regular in outline increasing in width as it approaches the clavicles. According to Dr. Thomas of Cleveland if an accessory lobe is involved the shadow converges to the median line as it approaches the upper level of the sternum and extends downward convexly, in marked cases over-lapping the heart shadow. Upon fluroscopic examination it is possible in most cases to differentiate the aortic shadow from that of the tumor by observation during deglutition which raises the thyroid shadow. Dr. Bowen has demonstrated that the enlarged gland goes downward with deep inspiration and upward with expiration. It should not be confused with persistent thymus which as a rule does not extend so high and casts a shadow of much lesser density.

Mediastinal growths are of fairly common occurrence chief among which is lymphosarcoma. This must be differentiated from Hodgkins disease, enlarged tubercular glands, syphilis and dermoid cyst. Lymph-sarcoma generally shows irregular involvement of adjacent tissues and metastatic growths in the lung tissue which are not well defined. Tubercular glands nearly always show calcification. In syphilis the shadow is usually very dense and the aorta shows characteristic changes. Dermoid cysts containing a tooth or piece of bone would be easily differentiated.

In conclusion I wish to emphasize the fact that the roentgen examination of chest lesions is of great importance in corroborating and amplifying the clinical diagnosis and by its routine use the percentage of diagnostic errors can be reduced.

Case No. 1. Age 1½ years. Family history negative as far as known. Personal history: Had pneumonia in June, 1916, from which he apparently made a good recovery except for a slight cough. He was up each day, played about the house and ate well.

Present Illness: About July 24th, 1916, he had chills and fever. There was dullness to percussion over left lung. He was taken to the hospital and operated for empyema and a half pint of pus removed. In ten or twelve days drainage was removed and wound healed. Wound was reopened about two weeks later and more pus drained. After this the wound did not close but was discharging continuously.

Roentgen Findings: Aug. 22, 1916, bismuth paste was injected into the fistula and a roentgenogram made. The left bronchus and many of its branches were shown to be well filled with the mixture and the lung itself showed increased density and mottling due probably to unresolved pneumonia and thickened pleura. The injection caused no alarming symptoms whatever, not even coughing was produced, due to the fact no doubt that the bronchus had contained pus over a period of several weeks and lost its irritability. The patient left the hospital soon after this. November 28th, 1916, was again operated. In the left mid-axillary region portions of the fifth and sixth ribs were removed. A sinus with a small cavity about the size of a walnut with thick walls was found. Some pus was present. Cavity was packed with gauze. A plate taken December, 1916, showed some barium still remaining in the bronchus. I last saw the patient May 1, 1918. He is apparently well and healthy in every way. His father says he eats, sleeps and plays well and has had a normal growth.

Case No. 2. Miss S. Age 11 years. Family history negative. Personal History: Had pneumonia about six months ago from which she never entirely recovered as it was followed by a productive cough and soreness in her chest.

Present Illness: Has been loosing weight since she had pneumonia. Coughs a great deal and expectorates a thick yellowish sputum. No T. B. found. There is a triangular area of dullness in lower right lung just to right of spine, over this area numerous moist rales are heard. Has from one to two degrees of temperature.

Roentgen Findings: On screen examination a dense triangular area four and one-half inches wide at its base is seen extending into the lung at the right of the spine. The widest part is at the diaphragm. Near the upper end of this area just at the right of the spine is a small object of greater density than the surrounding tissue. This is probably a foreign body. Patient says she does not remember having inhaled anything into the trachea. On questioning the father he said he could not remember any accident of such a nature. Returning the next day he said he remembered her swallowing the metal end of a lead pencil about eight months previous. This agreed with the fluroscopic and plate findings and explained the chest symptoms. She was taken to Pittsburg where Dr. Chevalier Jackson made a bronchoscopic examination and referred her to a surgeon. The foreign body was removed and proved to be the metal end of a lead pencil. The wound discharged for several months and finally healed. She regained her weight and has been well except for a slight unproductive cough at times.

Case No. 3. Mrs. B. Age 62. Married. Family History negative.

Subjective Symptoms: There was a gradual onset of mechanical dysponea for the past 6 months. Has had several choking spells for the past two months which were gradually increasing in severity and frequency. Past two attacks she has been cyanotic. Has had some distress just below the sternum but no pain. She is below normal in strength, and bedridden for the past two or three weeks owing to dysponea.

Objective Symptoms: Patient is elderly and careworn from dysponea. Veins of face are prominent but not so in neck. Small goitre low on the outside and rather hard. Breathing is definitely obstructive and labored. There is a large tumor in the abdomen. This is a uterine fibroid. Blood pressure 138.

Roentgen Findings: In the upper part of the thorax there is a shadow three and one-half inches in breadth, symmetrical in outline with rounded borders and extending downward nearly to the aortic arch. It is broader at the level of the clavicles and continues upward into the neck. The intrathoracic portion is sharply outlined and regular. Such a shadow is characteristic of substernal thyroid. This diagnosis was proven correct at operation.

ORDERS TO NEBRASKA OFFICERS OF THE MEDICAL CORPS, U. S. ARMY.

December 7.

To Camp Meade, Md., from Camp A. A. Humphreys, Lieut. R. F. Decker, Byron.

To Carlisle, Pa., from Camp Zachary Taylor, Lieut. R. J. Stearns, Omaha.

To Fort Jay, N. Y., from Camp Las Casas, Capt. J. A. Strong, Kearney.

To Fort Oglethorpe, base hospital, from Camp Jackson, Capt. C. H. Newell, Omaha.

To Washington, D. C., and on completion to Camp Gordon, Ga., from Hoboken, Capt. F. A. Wilmot, Bethany. On completion to Camp Jackson, S. C., from Hoboken, Major E. S. Tenney, Lincoln.

To West Baden, Ind., from Camp Dodge, Capt. A. R. Des Jardien, Lincoln.

The following order has been revoked: To Camp Logan, Texas, base hospital, Capt. C. A. Allenburger, Columbus.

December 14.

To Camp Zachary Taylor, Ky., base hospital, from Fort Oglethorpe, Lieut. L. L. Nelson, Norfolk.

To Detroit, Mich., from Camp Gordon, Capt. I. S. Cutter, Omaha.

To Fort Crook, Neb., from Camp Las Casas, Capt. J. A. Strong, Kearney.

To Fort Snelling, Minn., from Camp Dodge, Capt. J. P. Williams, Lincoln.

December 21.

To Biltmore, N. C., from Fort Oglethorpe, Major F. J. Wurtele, North Platte.

To Camp Beauregard, La., to examine the command for nervous and mental diseases, from Camp Cody, Capt. H. R. Carson, Norfolk.

To Fort Des Moines, Iowa, from Fort Oglethorpe, Lieut. W. H. Crutcher, Lincoln.

To Fort McHenry, Md., for instruction, from Camp Crane, Major S. R. Hopkins, Hastings.

To Hoboken, N. J., from Camp Logan, Capt. P. A. Royal, Normal.

To report by wire to the commanding general, from Fort Oglethorpe, Lieut. C. H. Sheets, Cozad.

To Williamsbridge, N. Y., from Camp Greene, Lieut. H. A. Rosenbaum, Harvard.

December 28.

To Camp Travis, Texas, base hospital, from Camp Grant, Capt. J. F. Kelly, Dawson.

To Otisville, N. Y., from Fort Oglethorpe, Major W. N. Anderson, Omaha.

To report to the commanding general, Northeastern Department, from Camp Devens, Capt. F. P. Reed, Weeping Water.

To San Francisco, Calif., from Fort Oglethorpe, Capt. F. H. Kuegle, Omaha.

The following orders have been revoked: To Camp Crane, Pa., from Hoboken, Capt. C. K. Gibbons, Kearney. To Jefferson Barracks, Mo., from St. Louis, Capt. F. C. Genung, Wausa.

THE NEBRASKA STATE MEDICAL JOURNAL
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Moving Forward.

Our Journal came into existence during a period of state and national unrest because of conditions incident to a world war in progress. This issue begins our fourth volume. It is the twenty-seventh Journal in the family of twenty-nine state medical association owned and controlled official publications. The need of an official publication representing the best ideals in our profession had long been recognized. Our actual launching of it was accomplished when the faith of a few leaders initiated the plan, and unitedly carried their ideas into effect in our 1916 State Medical Association Convention. This issue in 1919 comes to us as the child now almost three years old, whose early months demanded much care, and great economy in our management.

We now own the State Medical Association and Journal office equipment, essential to all the necessary business transactions in the several departments of our State Medical Association work. In our office—476 Brandeis Bldg.—we employ a full time stenographer, who, under the direction of our Journal Committee, and the immediate supervision of our business manager and secretary-treasurer, keeps our records and conducts the Association and Journal correspondence.

The many discouragements common to beginners in publishing a journal, were multiplied when imperative demands by our Government claimed almost 50% of our State Medical Association enrollment, for service in some phase of military duty. In the midst of these disorganizing conditions the existing influenza plague necessitated more than the normal of our professional duties to the civil population. With a death roll in our profession in private practice that was far in excess of our ratio in military life, adversity has fraternalized and educated our profession. Our members have worked with cheer in their hearts, intelligence in their work, and unselfish devotion to their chosen vocation, day and night serving the humanitarian needs of the sick, suffering and dying, in every community in our state.

The return of our M. R. C. members to civil practice is a stimulant to every phase of medical practice. The great majority of them desired and served well their profession, thereby adding largely to their knowledge of scientific medicine. A few went from less humanitarian motives. Many will want to relate their observations, and we who were not in the service are anxious to hear them. We confidently anticipate as a result an increasing interest in county society meetings, councilor district meetings, and in our 1919 State Association Convention. In these local meetings many papers and discussions are produced that do not obtain the publicity among our Nebraska physicians their merit deserves. The official Journal of our Association is the medium designed and maintained for printing and placing such worthy material on the desk of each member in our State Medical Association. A brief resume of county society meetings summarizing papers and discussions, and noting the social and fraternal advantages there gained would—if printed in our Journal—stimulate other county societies to better service in their communities.

Our Journal, guided by its Committee, is a growing publication of merit, creditable in comparison with other State Association owned Journals, because it has the loyal support of our membership.

Major E. L. DeLanney, of Omaha, and Lieutenant George Buol, of Ravenna, are the first and only golden stars in our M. R. C. roll to date, so far as the Journal office is advised.

Our State Medical Association annual dues are $4.00. The January issue will be mailed to all 1918 members. Those who have not paid their 1919 dues by January 31st will be dropped from our February mailing list.

Notes Upon the Pandemic.

During the last hundred years, according to Hirsch, there have been a hundred pandemics of influenza. In the last century five dates are made prominent, 1803, 1833, 1847, 1872 and 1890. The Pfeiffer bacillus has been considered the influenza bacillus. In the present pandemic perhaps the greatest of all, there seems to be no certainty as to what the primary cause may be, nor what the exact conditions under the disease may flourish. Six million deaths throughout the world seems a fair estimate of the havoc wrought; four hundred thousand the toll on American life. The fatalities come from bronchopneumonia a sequence a few days after the primary attack, in 15% or more of the cases. Many times also Peyer's glands are infected, accompanied with abdominal symptoms. In 1890 London had a morbidity of 25%, Antwerp 33%, Massachusetts 39%, Paris 50%. In 1833 Paris had 40% morbidity. London in 1872, had 75%. In the United States in 1918 morbidity has averaged about 38%, but certain areas have had few fatalities. Under "Barrack" conditions both morbidity and mortality have been augmented. In the army it is said that one-fifth were ill; one-sixth of these had pneumonia, two out of five cases were fatal. Insurance organizations report a death rate five times the normal.

Never before probably has there been such opportunity nor such numbers studying the "flu." And possibly never have results been more barren. Some observers fail to find the Pfeiffer bacillus—heretofore considered the cause of influenza. Soper thinks the strain now present a new and more virulent type. Keegan of the U. S. navy reports it present in 82.65% of cases at autopsy—31.65% being in pure culture, but not in the blood. In 51% were found types II, III and IV of the pneumococcus. The Pfeiffer bac. was luxuriant and associated with staphylococcus and streptococcus. Filtered serum given to sixty men who volunteered, proved negative. It is reported that later Keegan failed to transmit flu to these volunteers by any of the accustomed methods, using secretions from nose and throat of infected cases.

He is almost ready to declare these areas unrelated to the contagion, and that we know very little about the disease. Other observers both in England and the United States have failed to find bacillus influenza. Many have noted a gram positive diplococcus present and unrecognized. Stone of Schenectady, N. Y., noted a gram negative diplococcus associated with type IV pneumococcus. From this type IV he developed a vaccine, not pure of course, which he used upon 12,362 persons; and of these only 117 had flu, and half of these within 24 hours after inoculation. In factories less than one per cent had flu, while 15% to 20% of the unvaccinated were ill. On several occasions the only well one in a family was the vaccinated one. He does not incriminate the Pfeiffer bacillus. Vaccination, apparently can only be a stroke in the dark until some organism is proven to be the cause. The committee of the American Public Health Association designated by the late meeting to prepare a program for management of the epidemic, declare reports thus far "contradictory and unreconcilable," and a vaccine against the primary disease without scientific basis. Certain trade journals give more favorable reports of course, though some do not. Favorable reports may be from experience in regions where the type of disease is far less fatal; as is true in some towns in Nebraska.

In the management of a community infected, isolation of the sick is of first import. General closing of all assemblies is wise early in the epidemic; later it is not so effectual. Crowding of assemblies is detrimental always. Unnecessary gatherings should not occur. Schools need not close if a careful system of inspection is in force.

Great attention to ventilation at every point where people gather is most essential. A large manufacturing establishment in Omaha under the advice of a physician, (who visited each room to instruct those in charge) by window ventilation behind the fast curtains and window-boards had very few cases of illness and one death only, from a late report. Several hundred were employed.

In the treatment also, out-door conditions are extremely beneficial. W. A. Brooks was in charge of 5,000 men of the Massachusetts State Guard and 1,200 were ill; 350 cases serious. These were removed to out-of-doors. Tents were used during storms. Lower fever temperature resulted immediately, and a general hopefulness also. The deaths were 35. Anything akin to "barrack" conditions must be avoided in all epidemics if possible.

Evidently, until we can learn much more

of the cause and nature of the "flu" we have to rely on simple rational means of management.

S. R. T.

Nebraska Medical Men in the War.

The profession of our state can look with pride upon its representation in the Medical Corps of the army during the war. Briefly stated the Nebraska record is as follows:

Accepted commissions in the service	435
Additional physicians recommended for commissions	75
Additional applications for commissions made	31
	541

This would show that if all of those, who have made applications, had been commissioned and the commissions had been accepted, Nebraska would have contributed 541 medical officers to the service. Furthermore a total of seventy-one additional Nebraska physicians are on record as having applied for commissions, which were granted in certain instances, but who for various reasons are not now in the service. This would give a total of 612 Nebraska physicians who have been sufficiently patriotic to respond, in some degree at least, to the call of the Surgeon general of the Army. Besides this number, there are many others, who have served on the draft and exemption boards, performing in this connection valuable work for the government. It is interesting in this connection to note that, according to the 1918 directory of the American Medical Association, there are in the state 1565 physicians all told, of whom 1139 are members of our State Association. The great bulk of the physicians, who have obeyed the call are members of our Association.

Taking into consideration the 612 physicians, who have in some degree responded in our national emergency, this number would amount to 39 per cent of the total number in the state.

The War Committee of the State Medical Association feels, therefore, that it can with good reason congratulate the profession of the state upon the excellent showing made.

J. M. Banister, Chairman.
John E. Summers
Ewing Brown
C. L. Mullins
Joseph M. Aikin, Secretary.

Dr. A. S. v Mansfelde retires from the office of Treasurer of the Nebraska State Medical Association, January 1, 1919. He has served many years with distinction in different capacities, and it is with regret of his many friends, that advancing years necessitate the curtailment of his many attentions. He has been, without exception, the most active member of the State Association from the early years of the Association to the present time. He has occupied every office in the gift of the Association and in such capacity he has served with unusual distinction. Always unselfish he had only the uplift and the advancement of the medical profession and the Association in mind. His heart and soul were always in his work. The profession of the state do him honor and will long remember his splendid activities.

It is with pleasure that members of the Association will be informed that he will still continue to act as Chairman of the Defense Committee, in which capacity he has been a leading factor in the defense of many of our members, who have been unjustly, and often maliciously, accused of malpractice. He has acquired an astonishingly large fund of medico-legal knowledge that has enabled him to expose many legal irregularities in connection with prosecution of members of the medical profession. His knowledge of court procedure, coupled with an enthusiasm and an earnestness, has been the means of happy terminations of suits by designing and unscrupulous attorneys and clients. It is to be sincerely hoped that he may continue many more years in the latter capacity.

A. F. J.

To the County Societies Nebraska State Medical Association:

My attention has again been called to the matter of the dues of members absent in the military service of our country. In some cases the county societies have not kept up the State Association dues of these absent members. This must be the result of oversight. These absent members have made a real sacrifice to enter the service of our country, leaving the comforts of home, family and friends and at less pay than they received from their private business. I feel that those of us remaining at home cannot do less than to keep these members in good standing in our county and State Associations and thus show some small measure of our appreciation of their sacrifice. The great majority of these members are doubtless married and have families and a large number of them have commissions of such low grade that their income is not sufficient to meet their own expenses and that of their families. I hope that each county society that has not already done so will meet the dues of the absent members and continue to keep them in good standing until their return to civil practice.

C. L. Mullins.

The Fight Against Venereal Disease.

When the history of America's participation in the great war comes to be written, no finer achievement will be recorded to her credit than the unending battle against sex indulgence and venereal disease in the army. The success of the efforts to repress prostitution on this side of the Atlantic are already fairly well known. Now that peace is at hand, some account can be given of the measures taken by General Pershing to protect the American Expeditionary Forces from this menace.

"The federal government has pledged its word that as far as care and vigilance can accomplish the result, the men committed to its charge will be returned to the homes and communities that so generously gave them with no scars except those won in honorable conflict." These were the words of President Wilson in April, 1918. Through the Surgeon General of the Army and the War Department Commission on Training Camp Activities the government has carried out a programme for combating prostitution and venereal diseases without parallel in any other country. It was founded on the proved principle that sexual continence was not only possible for soldiers, but was also highly desirable from the standpoint of physical efficiency, morals and morale. Its chief features were education of the men; repression of disorderly resorts; provision of healthful, interesting and constructive recreation; prophylaxis, or early treatment, for men who had exposed themselves; punishment for those exposed who failed to take prophylaxis; and, finally, expert treatment for those who either came into the army already infected or broke through all the barriers set up by the military authorities.

On the other side of the water a similar programme was instituted, but an exception had to be made of the feature of law enforcement—repression of prostitution. The foreign governments with which it was necessary for us to deal held views about prostitution very different from ours. The French believed in "toleration" and "regulation." For generations they had been used to licensed brothels and registered prostitutes, inspected with greater or less care by medical officers. They felt that an army could not get along without sexual indulgence and that to attempt to carry out such a policy was to court discontent, a lowering of morale and health standards, and perhaps even mutiny. So sincerely did they hold this belief that prostitution facilities for our soldiers were officially offered to the American high command. A further reason for this offer was the conviction among the French that without such facilities the venereal rate would be much higher both among the soldiers and among the civilian population around their billets and training areas.

It is perfectly evident that this attitude and this offer were both entirely honest and sincere. The French thought that General Pershing's repudiation of the former and refusal of the latter were an expression of most naive idealism. "America has the noblest official moral aspirations," said a high official of the French Surgeon-General's office in a report on the situation, "but can our ally guarantee the arrangement?" In any event it is evident that such an attitude precluded any possibility of establishing in France a system of repression comparable with that which has been established and carried out in this country.

The only alternative was to prevent our soldiers as far as possible from coming into contact with prostitutes, either public or clandestine. One of the first general orders issued after our early contingents landed in France impressed upon American line and medical officers the danger of such contact and their responsibility towards their men. Whereas in America punishment involving court martial was imposed upon men who became infected with venereal diseases only in case they had not taken the prophylactic treatment, in France the contraction of such a disease was made per se an offense against military regulations. A second order soon followed urging sexual continence and the maintenance of high moral standards of living, and requiring men reaching Paris and other cities in France to live in barracks or hotels designated by the Provost Marshal in which prophylactic stations had been installed. In order to prevent deliberate venereal infection on the part of any slackers who might think that they would thus escape military duty, this order also provided that venereal cases should be treated while on duty status at dispensaries within their own organizations instead of being evacuated to hospitals where they would use space and medical facilities needed for the care of the wounded. As a result, loss of effectives was prevented, and, instead of having three 1,000-bed hospitals filled with venereal patients by a given date, as had been expected and prepared for, the Americans had by that date no venereal hospitals and only about 300 non-effective hospital cases, mostly in regimental and field infirmaries.

In the meantime, both at ports of embarkation and in the training areas, careful search was made for houses of prostitution and they and the surrounding districts were placed out of bounds for our troops, military police being used to enforce the orders.

Complaints having been brought to the attention of the American authorities that some of our men who had been venereally infected just before sailing were debarking and spreading their infection among the civilian population at the base ports, another order was issued providing for strict physical examination of all troops before debarkation, prohibiting shore leave to all troops held on shipboard, restricting debarked troops to the port camps, placing out of bounds all houses of prostitution and such cafes as had been found selling heavy liquors to our troops, and renewing directions to officers to enforce strictly the rules for prophylactic treatment. One very remarkable provision of this order was that requiring venereal disease statistics of all organizations to be filled at General Headquarters **"to be used as a basis in determining the commander's efficiency and the suitability of his continuing in command."** This served of course as a very strong stimulus to greater efforts on the part of officers to promote continence among their troops and to keep down the venereal disease rate of their organizations.

The frank scepticism of the French authorities regarding the success of these efforts led to a very careful investigation of results under the direction of General Pershing's Surgeon General. The figure thus obtained gave overwhelming proof of the soundness of the American policy.

Is it possible for men living constantly together in large groups to be sexually continent and at the same time healthy and contented? This question was answered by a group of figures of which the following, while perhaps the most striking, are fairly representative: In one body of 7,401 troops belonging to various branches of the service, with an average of seven weeks in France, only 56 prophylactic treatments were given and only one case of venereal disease developed; during two months in France, one infantry regiment of 3,267 men had a record of only eleven prophylactic treatments and no new cases of disease. No complaints were made against either the health or the morale of these organizations.

Of course, these figures are not adequate to describe the conditions among all the American overseas forces—they are given only as an answer to the above question. Yet it has been found to be generally true that continence is maintained by a large percentage of our soldiers with good, rather than evil, effects.

Now, as to the effectiveness of the plan to prevent sexual exposure: has it proved of value in preventing venereal disease? Considerable evidence has been adduced, but the experience at one of the base ports will serve as an excellent concrete illustration. During August, September, October and the first part of November, 1917, the houses of prostitution in this city were running wide open and were frequented in large numbers by our troops. On November 15th, all these houses were placed out of bounds. The figures show what happened:

	Month	No. of Troops	No. of Prophylaxes	Disease Cases	Rate per 1,000
Houses Open	August	4,571	1,669	72	16
	September	9,471	3,392	124	13
	October	3,966	2,074	67	16
Houses out of bounds	November	7,017	885	81	10
	December	4,281	539	44	10
	January	3,777	523	8	2

Of course, these figures do not tell the whole story—during both periods there may have been and probably were men who failed to report for prophylactic treatment and were fortunate enough not to contract a disease. But these must have been very few, inasmuch as venereal infection is present in probably at least 90 per cent of the women of the streets, and our medical officers have found frequent cases of infection coming from brothels inspected after the French fashion three times a week.

These figures also indicate the value of the prophylactic treatment. When it is considered that in a military organization the first object must be the prevention of incapacitation, and that prophylaxis is under favorable conditions secondary in effectiveness only to actual prevention of exposure, it is absurd to attack it on the ground that it invites to sexual indulgence by providing immunity. When every other means has been used to make contact difficult if not impossible, prophylaxis, while not one hundred per cent efficient, is invaluable as a last resort and has contributed a large share towards maintaining in our army the lowest venereal disease rate ever before known.

Perhaps the most clear-cut and striking illustration of the results of our efforts at local repression of prostitution in France occurred at Blois. American troops began to arrive in this town about the middle of January, 1918. Towards the latter part of the month the Provost Marshal placed the brothels out of bounds. Shortly afterwards, however, they were reopened to our soldiers owing to protests of the French authorities. A report of the medical officer on an investigation ordered by the Commander led on February 10th to the taking over by the Americans of one of these places for their exclusive use and under their strict supervision. General Pershing learned of this and on March 21st he ordered it put out of bounds and directed that every effort be made to prevent prostitution and street-walking. These orders have since been enforced to the letter. General repressive measures, including repeated arrests by our military police of prostitutes and suspected prostitutes succeeded in almost ridding the town of this menace.

The result was interesting. Although politicians and the owners of cafes and brothels continued to protest, the decent elements of the community gradually changed from an attitude of scepticism, even of hostility and resentment, to one of appreciation, commendation and cooperation. An official report from the Surgeon-General's office on conditions in this town declared: "It is evident that placing the houses at Blois out of bounds as directed from headquarters, has had a wonderful effect not only in greatly lowering the venereal rate, but in improving the morality of the soldiers and also the civil population."

As a result of these various experiences and investigations, American officials were able to lay before the French government strong and well supported arguments against the French system of reglementation. They contended that the "inspected" prostitutes frequently transmitted venereal disease without themselves having it in an acute stage; that alcoholic liquors were sold freely in the brothels contrary to French law; that the houses became practically soldiers' and sailors' clubs to which many men went primarily for amusement and out of curiosity, but in which they often stayed contrary to their intentions with the result that drunkenness and disease followed. Their statistics showed that the brothel, rather than clandestine prostitution, was the great outstanding danger. In a French city of 100,000 population, out of 799 sexual exposures among the troops in a given period, 761 occurred in licensed houses.

Some time after the Americans succeeded in firmly establishing their system of repression, the houses of prostitution were declared out of bounds for members of the British Expeditionary Force. General Pershing made the occasion an opportunity to write Lord Milner a letter (May 7, 1918), which throws so interesting a side-light upon the ideals and character of the Commander-in-Chief of the American Expeditionary Forces that I venture to quote from it somewhat at length:

> I have heard with great satisfaction of the recent decision of the British War Office that the licensed houses of prostitution are to be put out of bounds in the British Expeditionary Force. Many of us who have experimented with licensed prostitution or kindred measures, hoping thereby to minimize the physical evils, have been forced to the conclusion that they are really ineffective. Abraham Flexner has argued the case so convincingly that on the scientific side it seems to me there is no escape from the conclusion that what he terms "abolition" as distinguished from "regulation" is the only effective mode of combating this age-long evil.
>
> This menace to the young manhood in the army forces and to the health and future well-being of our peoples cannot be met by the efforts of each government working apart from the others. It is plain that every day it affects more and more all of the allied nations now fighting on the western front in France. The question long since was an international one, and it is only by an internationalization of our aims and efforts that we can obtain the unity and coordination which will enable us to solve the problem. The gravest responsibility rests on those to whom the parents of our soldiers have entrusted their sons for the battle, and we fail if we neglect any effort to safeguard them in every way.
>
> We have the common ground of humanity; we have the well considered conclusions of the best scientific minds on our side, and from the fact that, in this war of nations-in-arms the soldier is merely

a citizen on war service, we have all the elements which will force cooperation between military and civil authorities. The army can do little unless the citizen at home plays his part in the big scheme. With our nations cooperating hand in hand, both in France and at home, we have the brightest prospects of winning the victory.

The victory over Germany is won. When the members of the American Expeditionary Forces return to their homes, they will come "with no scars except those won in honorable conflict" because America has been far-sighted enough, idealistic enough, to undertake to fight an unseen enemy, and win, in the face of tremendous odds, a victory over it as notable, in proportion, as the victory forced from the Central powers.

Raymond B. Fosdick.

(The New Republic, November 30, 1918)

DEATHS.

William Francis Lewis, Anoka, Neb., Rush Medical College, 1884, age 57, died November 22 from pneumonia.

John Henry Blomenkamp, Barada, Neb., Rush Medical College, 1911, aged 32, died November 26 from influenza.

William L. L. Foster, Waco, Neb., Barnes Medical College, St. Louis, 1898, died November 22 from pneumonia following influenza.

Jonas Larson, Cozad, Neb., John A. Creighton Medical College, Omaha, 1915, aged 33, died of pneumonia following influenza November 10.

David Frank Hallett, McCool Junction, Neb., Hahnemann Medical College, Chicago, 1878, aged 63, died of cerebral hemorrhage November 30.

George Buol, Ravenna, Neb., College of Medicine, University of Nebraska, 1910, age 32, was killed December 21, when the car in which he was riding was struck by the Burlington train.

Dietrich Ludwig Bartling, Lieut. M. C. U. S. Army, Bloomfield, Neb., Chicago College of Medicine and Surgery, 1917, aged 31, on duty at Fort Sill, Okla., died at that post, October 20 from pneumonia following influenza.

W. T. Johnson, Pawnee City, Neb., Electric Medical College, Cincinnati, age 58; was found dead in his auto on December 18. He had been a practicing physician in Pawnee City for 25 years. It is supposed his death was caused by heart failure.

E. L. Delanney, Creighton Medical College, 1901, age 46, died December 25, in a hospital at Fort Des Moines following one week's illness with influenza. Major Delanney was in charge of the Fort Crook hospital for three years and six weeks ago left there to take up the duties of chief medical officer at Fort Des Moines.

STATE NOTES.

Board of Medical Examiners, Board of Health, will hold the next state examination on February 12, 13 and 14.

Dr. Leroy Crummer, of Omaha, who has been in government service, recently returned and took up his practice.

The governor has appointed Dr. H. H. Humphrey of Daykin to fill the vacancy made by the death of W. T. Johnson of Pawnee City, on the Nebraska State Board of Health Advisory Board.

Drs. A. E. Buchanan and G. H. Rathbun, of Fremont, recently returned from Camp Meade, Maryland, and Camp Greenleaf, Georgia, respectively, where they have been serving in the Army.

In this season of an unusual amount of sickness, demanding our best medical skill and watchful care day and night among the afflicted in every county, the doctor and his immediate family are not exempt from the pestilence and its results. Not only is the grim reaper claiming many physicians, but in their homes deaths are frequent. The latest in the group reported to the Journal office is the death from pneumonia of John R. Quirk, aged 20. He was the only child of Dr. and Mrs. Howard W. Quirk of Crete, Nebraska. The sympathy of our professional brethren is extended to these parents, and to all other physicians' families where death has claimed their loved ones, even though the facts are not known to us.

COUNTY SOCIETY NOTES.

Dr. B. A. Root, secretary-treasurer of York County Medical Society has sent in check to cover dues of eighteen members for 1919.

Dr. E. M. Stewart, secretary-treasurer of the Chase-Dundy-Hayes-Hitchcock County Medical Society has sent in check for eleven members for 1919.

The 1919 officers of the Boone County Medical Society are Dr. George L. Dewey, Primrose, president, and Dr. G. W. Sullivan, St. Edward, secretary-treasurer.

The 1919 officers of the Franklin County Medical Society are Dr. D. Neville, president; Dr. Will F. Dugan, vice president, Dr. Ella P. Sumner, secretary-treasurer.

The officers of the Holt County Medical Society for 1919 are Dr. L. A. Carter, president; Dr. C. L. Sturdevant, vice president, and J. P. Gilligan, secretary-treasurer. The secretary-treasurer has sent in a check to cover the dues of sixteen members.

The 1919 officers of the Platte County Medical Society are Dr. H. J. Arnold, president; Dr. A. A. Bald, vice president, and Dr. A. G. Lueschen, secretary-treasurer. The secretary has sent in check to cover the dues of eighteen members.

Dr. H. W. Quirk, secretary-treasurer of the Saline County Medical Society has sent in check for the dues of nine members for 1919. Their officers for 1919 are Dr. Henry Hein, president; Dr. J. C. Cerny, vice president, and Dr. H. W. Quirk, secretary-treasurer.

Douglas County Medical Society held their annual meeting for election of officers in December. Dr. W. P. Wherry was elected president; Dr. P. H. Ellis, vice president, and Dr. Roy A. Dodge, reelected secretary-treasurer for 1919. The Secretary has sent in check covering the dues of 250 members, it being the first remittance for 1919.

Private Library.
DR. C. C. HICKMAN.

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Regular Meeting
Omaha-Douglas County Medical Society

January 14, 1919.

W. H. Wherry, Presiding.

Meeting called to order by the President, and after the minutes of the previous regular meeting and the several subsequent meetings of the council had been approved, the President stated that inasmuch as this was the first meeting under the authority of the newly elected officers it might not be amiss to take a moment or two preceding the evening's program to outline in part the policy that would govern the activities of the society for the ensuing year.

To predicate this outline of policy it perhaps is wise to say that the Council has seen fit to propose several constitutional changes, the nature of which were read in the minutes of the last Council Meeting, the intent of which is to stabilize the affairs of the society and make towards a better and more permanent growth. As you note, these changes pertain largely to Committee organization, through which the important problems that confront us will be solved. Each committee will consist of three members, each member serving for three years and so appointed that one member only will retire each year. In this way each committee will be more or less permanent and upon the change of officers each year the Society will not be hampered in it's progress by green and sometimes inexperienced committees. These constitutional changes go over for a month, and will be made a special order of business for the next meeting.

Now as to our policies, one of the really important things we expect to do is to carry out a suitable entertainment for those members who have been in the service. It seems to me very imperative that we show our appreciation for what they have done, hence the appointment of an important committee, that of entertainment. Dr. Goetz is chairman of this committee, with Dr. Bushman and Dr. Bliss as the other members. As soon as the Constitutional Amendments have been passed we will designate their terms, and I will now ask Dr. Goetz to outline for the committee what they have in mind.

Dr. Goetz.—As Dr. Wherry has indicated we are planning on putting on some real entertainment—not horse-play but really entertainment. One of the things we intend to do is to try to get up a reception for the members of this Society who have been in the army. It will probably be a month or two before they get back, but we intend to show them that this Society appreciates what they have done for the Government.

We are also going to try to think out a plan for relieving the monotony of the meetings, possibly a few informal gatherings of the Society along different lines than we have had in the past, possibly arrange for a meeting out in the open, at the Field Club possibly.

Dr. Wherry—The Society must get into public affairs. We have probably been very careless, and to our own detriment, in not mixing in public policies and public affairs, in which the Society and the medical profession in general should be interested. We have created a Committee to do these things, this Committee consisting of Dr. Ellis, (Chairman), Dr. Lord and Dr. Manning. I am going to call on Dr. Ellis to outline the policy.

Dr. Ellis—This committee as announced by our President is composed of Dr. Lord, Dr. Manning, and myself, and we are simply a committee to act, if possible, for the Medical Society, to investigate and report upon all questions of a public nature in which the public is interested and in which we as a Medical Society are, or should be, interested. Lots of questions come up in a year. Heretofore there has been no source we could go to and have these questions investigated and pushed to a conclusion. This is, briefly, the idea of naming this committee on publicity. We want, and we desire, and we expect, the individual co-operation of each and every member of this Society. If any member has, or knows, of something of interest, which should be investigated by the Committee and brought up before this Society, refer it to this Committee, or to the President and he will refer it to us. We will look into it to the best of our ability and report to the Society.

For instance, we have recently had this "flu" situation. Reports have been garbled and changed by the reporters, and the Society as a Society has been misrepresented, and the public has been given a wrong impression. It is the idea of this Committee that with the members, if we work in harmony, and let these things be sifted out and reported to the public as coming from the Omaha Douglas County Medical Society there will be a uniformity of opinion and information handed out to the public, in that way presenting the thoughts and ideas in a manner plain and enlightening to them, and fair to the Medical Society. Again, there is now a bill up before the legislature known as the Osteopathic bill, which this Committee has been asked to pass upon. We will endeavor to make a report on that question.

And it occurs to me right now, in this question of the Home for Diseased Women—prostitutes. We see lots of it in the newspapers. That, I think, is a question which should be taken up and backed up by our Medical Society as a whole.

Now these things we want to work out and present to the public in a manner which we think will be the best. The only way we can do this is to get the co-operation of each member of the Society. Sometimes you know of matters which should be brought before the society and without a definite organization or committee to do this it can't be done satisfactorily and many times it is dropped. Now anytime you have or know of anything that you think would be, or should be, of interest to the Society and to the public in general, let us know and we will try to do our part.

Dr. Wherry—The Program Committee consists of Dr. Knode as Chairman, Dr. Conlin and Dr. Thompson, and I shall ask Dr. Knode to outline the policy of the Committee.

Dr. Knode—Dr. Goetz has already given you an outline of some of the ideas for your entertainment. During the war period it was decided that one meeting per month was all that was desirable. This rule will continue until next summer. Our idea is to appoint some man chairman for the program for each evening. This chairman will take complete charge of the program. He is to appoint any men he wants to assist him in the program and he is to be entirely responsible for the program. We hope in this way to get programs that are of more interest; to take up one subject from several different viewpoints, and get a good deal better type of scientific work.

We would like urgently to have members of this Society bring clinical cases before the society. We would like to have many clinical cases brought out. We hope in the near future to have a number of clinical programs arranged. The programs will be given in one of the hospitals or other suitable place. We expect to have one surgical and one medical program of this type—perhaps in March and April. The next meeting will be in charge of Dr. G. A. Young, and will be on "Vertigo."

The program committee is open to suggestions at all times.

I feel there should be no urging of members to take part in these programs, but that there should be a waiting list of men who want to come before the Society.

Dr. Wherry—The Medical Society of this city should be housed in its own home. Denver and most other cities have their own homes. Omaha is surely of as much or more importance, medically, than other cities of the same size. Therefore, a House Committee has been appointed. Dr. Pollard is Chairman but he has not yet decided who he wants to work with him. I will ask Dr. Pollard to present his views.

Dr. Pollard—I want to say in the beginning that the working outlines of these committees we have heard from have not come from the Chairmen. They originated in the fertile brain of our President.

I remember years ago when we used to meet in the Board of Trade Building—in the Commercial Club Rooms—it was decided then that we ought to have a building of our own. Two men said they were ready to finance it, Dr. Bryant and Dr. A. B. Somers. This did not go through. The time is now ripe for us to have our own building. We have an opportunity to get it if the members of the Medical Society will bind themselves for a certain amount of space. The upper floor will be donated to the Omaha-Douglas County Medical Society free of expense. A House Committee, appointed by the Medical Society, will have entire charge and say so of whom the tenants of the building will be. We can in that way rule out any undesirables—osteopaths, et cetera. This building is to be occupied entirely by physicians, dentists, and allied businesses such as the Riggs Optical Co., et cetera. The location of the building will be ideal.

If we investigate the charges for floor space of other buildings in the city the average price at present is about $2.00 per square foot per year, some less, some higher. That will probably be the charge here. I wish the members of the Society would consider whether they care to move their offices to a brand new building, known possibly as a "Doctors' Building," and also consider about the amount of space they desire to occupy. Of course, if we are to have charge of that building and the tenants, we have to absolutely guarantee a certain area to be occupied by doctors. It is unquestionably the best thing that could happen to the Omaha-Douglas County Medical Society that I know of, and I feel that the members will share with me the feeling that it is necessary for us to accept this offer.

Dr. Wherry—The building is already in prospect—plans are already drawn. It will probably be a fourteen story building—one of the finest buildings Omaha has ever had. It will not be called "The Doctors' Building," but it will be named after one of Omaha's former citizens. However, the building will be a marvelous structure. All that remains is for the Medical Society to pledge themselves to take certain space in order to get this home.

I will say that it is necessary for us to take reasonably quick action because on the 21st there will be a meeting between the house committee and the owners of the prospective building. The Committe is to find out who will go into the building, the amount of floor space each will take, et cetera, to see if it is possible to put the thing through. If it goes through, the upper floor will comprise two large ampitheatres, each holding about 250 people, with lobbies in between. It will be under the control of the Medical Society. We will have the revenue from the rentals of any one using it and disposition of the time. The rent of the floor will be distributed over the entire space and will hardly be noticeable to the tenants. This prospect is well under way. It is decidedly up to you—a question of what you want to do. If you want to back up the proposition it will go through.

Dr. Wherry—So much for the coming year. Now for the evening's program. Dr. Manning will take the chair.

Dr. Manning.

The program for the evening is a discussion of the recent influenza epidemic. I wish I were sure in saying recent. We thought we were practically over it eight weeks ago. We found we were not. I want to say just a few words from the standpoint of the Health Department, then turn it over to others.

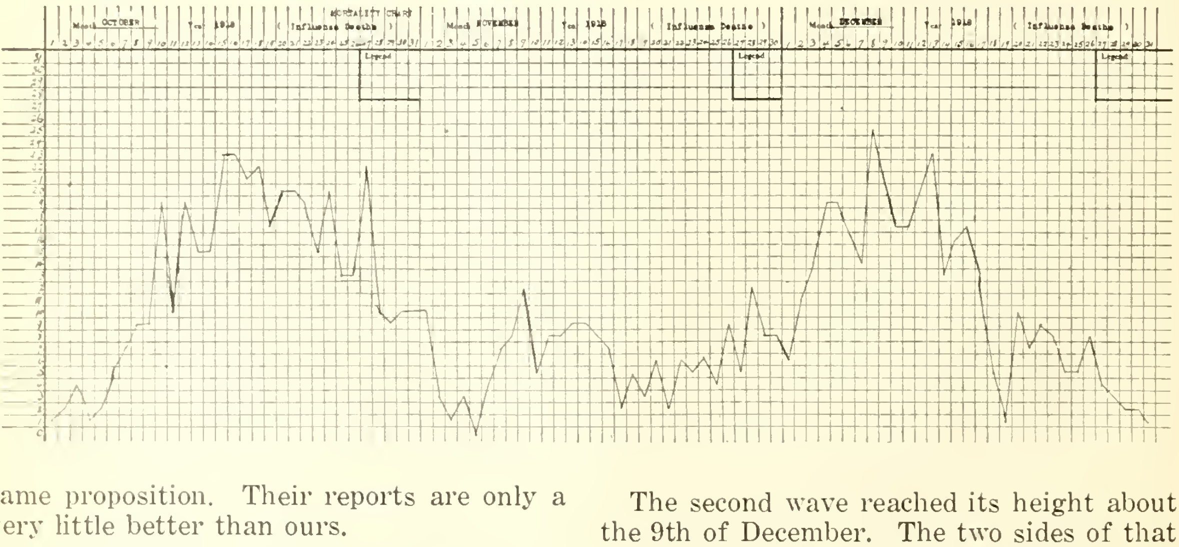
The epidemic struck us immediately after Ak-Sar-Ben. We were looking for it although not so suddenly nor in such proportions. Major Lindquist at the Fort called me up on Friday morning after the Ak-Sar-Ben parades on the preceding Wednesday and Thursday. He informed me that on Thursday at four o'clock they had no cases of influenza, by five o'clock they had ten, by the next morning they had nearly two hundred. He said it was his belief that the exposure was general. I asked his view about closing. He had been getting suggestions from the surgeon general. He advised very strongly closing the non-essential industries. I did so.

I would like to pass around the morbidity chart, and the mortality chart. The mortality chart is absolutely correct. The morbidity chart is only relatively correct. Most of you do not need to be told why it is only relatively correct. I don't want to take the position of blaming anyone. I know exactly what you were up against. The other cities of the United States were up against the same proposition. Their reports are only a very little better than ours.

Apropos of the closing, I immediately took the position with the Commission that the only class of people whose judgment and advice was material in this epidemic was the doctors. I am absolutely certain that is true. I waited for advice. I didn't get it. I got very little spontaneous advice. I had to go to the doctors separately and individually and ask for it. I hope that will not continue. Later on I heard lots of criticisms which did not come to me directly. They were more or less just. I would have welcomed before, and I do welcome, and will welcome any criticism from any doctor, with this exception, I cannot accept with very good grace the criticism on any course of action of the Health Department from any man who has not and does not report his cases. I think you can readily see that we have absolutely no way of keeping track of an epidemic without knowing the number of cases each doctor is seeing. Please don't blame us then if we do not keep the records we should if you do not do your part. I do not say this as a criticism. I only say it in explanation of some of the mistakes made by this department.

The total mortality was about 1025. That mortality is low per thousand population, compared with other cities. It is higher than it ought to be. It is higher than some other cities.

The first wave reached its height about the 18th of October—mortality I am talking about—but the crest of the wave was wide. In other words there were a large number of deaths during that wave.



The second wave reached its height about the 9th of December. The two sides of that wave were sharp. It didn't last so long. The mortality rate was not so great. That chart is absolutely correct because it is the report of cases of death. The other is relatively correct because the same men reported through the epidemic.

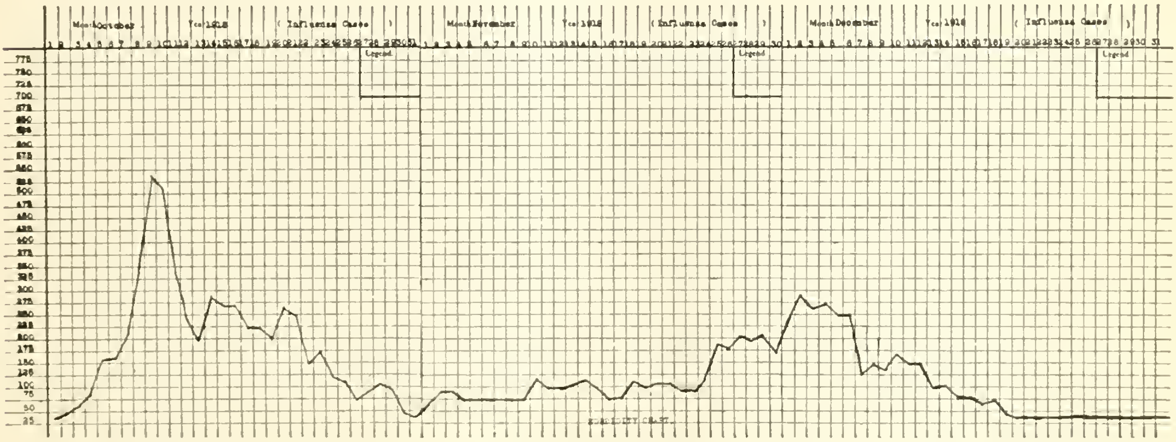
You will notice that the peak of morbidity in the first wave was very sharp. It went up quickly and down quickly. We hoped this was explained on the ground of closing—reducing crowds. It is pretty hard to prove and we are not at all certain. It is only presumptive. We can't deceive ourselves, it is only presumptive evidence.

This morbidity chart shows about 14,000 cases. We figure that it is practically half the actual number of cases. In other words between twenty-five and thirty thousand cases. It is almost impossible to get exact figures. But this chart is interesting. It is relatively correct as to the time shown, not as to the number of cases. If you would double the numbers to the left of the sheet it would be correct.

should make some tangible effort, even though of very little permanent value—we should make some effort to do some organized scientific research along this line. To that end the faculties of the two medical colleges were consulted. They very heartily agreed to cooperate. A commission was established, (the details of which you will get later), working under the direction of the Health Department. The Health Department appointed as chief of the commission Dr. Dunn, who assumed charge of laboratory and clinical data to be obtained. I would like to ask Dr. Dunn to explain more fully the method of approach in this investigation, and to introduce some of the speakers.

Dr. A. D. Dunn.

It was on the 18th day of last October that the idea of forming some sort of a group to apply energy to investigating the influenza epidemic was promulgated by Health Commissioner Manning. On October 21st a meeting was held at the University Club at which method and organization were discussed.



It was absolutely impossible to get information from anyone as to the best method of handling this epidemic. The Surgeon General sent out bulletins suggesting and advising, but they were indefinite. He didn't know the cause; didn't know the incubation period; didn't know the infectious or contagious period; he could only give general suggestions. It very soon became evident that we were working absolutely in the dark. We could get very little information from any source, neither from the army, navy, public health service, nor from any of the scientific institutions. Certain reports were coming out from hospitals of work which in a half-hearted sort of way was being done. It was not well correlated. It seemed to us we

The problem with which the Omaha Health Department was dealing required cooperative work. It required the type of cooperative work in which every man would do his bit without petty jealousy, and it required the sinking of personalities in the results to be obtained. Personally I feel that if this little commission has accomplished nothing save to get a group of men to work together in the City of Omaha, it has justified its existence. Problems will be continually arising in the future, which will demand the open-hearted and generous co-operation of men to attain their solution. Our work has fully demonstrated the possibility of such cooperation in Omaha. It certainly was a pleasure to see certain scholastic rivalries, which have been as insensate as they were childish, laid aside, and see men whose qualifications best fitted them for the work, sink all spirit of selfish rivalry in the thing to be accomplished. This bit of co-operative work resulted in the publication about a month later (unfortunately under my name only, because the Journal of the American Medical Association would not and did not publish the first paragraph as submitted) of an article which gave the results of the work that had been done.

The problem to be tackled was big. There was (1) a clinical phase; (2) a pathological phase; (3) a bacteriological phase; and (4) an immunological phase. The men chosen for this work were few, not because they were the only men whose services would have been valuable but because the time was short, mobilization must be rapid, and the problem must be as little complicated as possible by useless detail and by a large personel. Freedom of action was necessary. We at first thought to have certain chemical investigations made on selected cases, but we concluded that we had better focus definitely on the clinical, bacteriological, pathological and immunological sides of the problem. Dr. Myers and Dr. Stevenson will later summarize the bacteriological and pathological work done. I regret to say that the immunological work was not completed. The serum collected from seventy-five to a hundred cases met with an accident and the cases from which the serum was obtained were so widely scattered that it was impossible to recoup.

In attacking the clinical phase of the problem it seemed necessary that a uniformity of method and a standardization of data be effected. When one comes to analyze a clinical history taken by an interne, by a clinical clerk or even by an attending man, one finds that the difficulties of analysis of these histories are legion and one is very forcibly impressed with the wisdom of a saying of Voltair to the effect that, "The purpose of language is to conceal thought." So our first endeavor was to get out a type of history chart that would be "fool proof," that would specify the data to be obtained, and that would standardize the method of obtaining and expressing those data. So with the assistance of the Health Commissioner and of several clinical and laboratory men, we got out a standardized history sheet to be used in the hospitals.

Special History, Omaha Influenza Epidemic 1918.

Name ....
Residence ....
Physician ....
Consultants ....
Sex.........., Age.........., Race, M. S. W..........
Occupation ....
(1) Chief Complaint..........
(2) Specific Symptoms. Coryza.......... sore throat.........., epistaxis.........., photophobia.........., conjunctivitis.........., bronchitis.........., cough.........., sputum (kind).........., convulsion.........., headache.........., backache.........., boneache.........., malaise.........., chills.........., fever.........., sweats.........., vertigo.........., fainting.........., nausea.........., vomiting.........., constipation.........., diarrhea.........., hemorrhage.........., dyspnoea.........., pleurisy pain.........., insomnia..........
(3) Urinary Symptoms..........
(4) Additional unusual symptoms..........
....
(5) Mode and date of onset, and sequence of cardial symptoms ....
....
....
(6) Etiologic: Exposure to cold.........., to wet.........., to other cases.........., in crowds.........., in travel.........., fatigue.........., anxiety.........., physical status.........., alcohol.........., comment, dates, etc..........
(7) Living and working conditions, (this should include housing, congestion, ventilation, exercise, diet and sleep)..........
....
(8) Past disease. Diphtheria.........., scarlatina.........., measles.........., typhoid.........., tonsillitis.........., asthma.........., hay fever.........., rheumatism.........., tbc.........., bronchitis.........., pleurisy.........., pneumonia.........., grippe.........., nasal disease..........

Underline symptoms must be checked. In very sick cases the others may be omitted.

Note—1. It is requested that the observer whereever possible, use the basis "4" in estimating symptoms and physical findings. For example, if the patient has noticeable, though slight chilly sensations, chills would be designated "plus 1;" if the chilly sensations were definite "plus 2;" if the chills were marked, "plus 3;" if the chill over-shadowed the clinical picture temporarily, "plus 4;" i. e., maximum of double superlative degree.

2. Perceptible modification of breath sounds toward the bronchial type (broncho vesicular); "plus 1;" definite tubular breathing, "plus 2;" bronchial breathing of the typical lobar type, "plus 3;" bronchial breathing of maximum intensity, "plus 4;" voice sounds, fermitus, dullness, rigidity can be estimated in the same manner. Variation from the

usual in a negative sense can be estimated on a (——4) scale.

History taken by..

This history had in it certain definite questions to be answered. It picked out the symptoms that we supposed would be of interest, and these specified symptoms were divided into two classes, the less important and the more important, the latter being underlined. Instructions were given to the men taking the histories to evaluate the data by a prescribed method. For instance: When the patient was asked regarding coryza or sore throat, if he replied that it was present, this symptom was estimated a plus 1; if marked, plus 2; if very marked, plus 3; if it dominated the clinical picture temporarily, plus 4. This scheme was carried out throughout the history. Space was left for the mode of onset, and it was impressed upon those taking histories that the information as to onset must be complete. The etiological history and the history of past diseases were arranged upon the same basis. The historian was asked to estimate clinical findings on the basis of "4" wherever possible. We may illustrate this method with the modifications of breath sounds. When the breath sounds were modified toward the bronchial type—so-called broncho-vesicular—it was plus 1; definite tubular breathing, plus 2; bronchial breathing, of the typical lobar type, plus 3; bronchial breathing of maximum intensity, plus 4. The same method was used for indicating variations in the voice sounds, fremitus, dullness, rigidity, etc. The diminution of normal phenomena was estimated on the minus "4" basis.

We found, however, when we came to analyze data from the first epidemic that it was further necessary to schematize the physical findings because they varied with the individual taking the history and often no definite conclusion could be drawn from what was chronicled. Therefore we got out a physical examination chart with certain things to be looked into, such as habitus, physical state, color, facies, dyspnea, cyanosis, sweat, pallor, pulse, temperature, respiration, and sensorium.

Physical Examination.

Date ....
Habitus..............physical state................ color..................
Inspection of entire body..
....
Facies................ dysp.................... cyanosis......................
Pallor..................... Sweat.................... Pulse..................
(rate & quality)
Temp.................... Resp.................. Sensorium.....................
R. L. Frem..............Dul..............B. S..............V. S.............
Cr................ Smr................ Lmr.................. Sr.................
L. L. Frem..............Dul..............B. S..............V. S.............
Cr................ Smr................ Lmr.................. Sr.................
R. U. Frem..............Dul..............B. S..............V. S.............
Cr................ Smr................ Lmr.................. Sr.................
L. U. Frem..............Dul..............B. S..............V. S.............
Cr................ Smr................ Lmr.................. Sr.................
R. M. Frem..............Dul..............B. S..............V. S.............
Cr................ Smr................ Lmr.................. Sr.................
Heart.................................. Abdomen...................................
Tonsils and lymph glandular system...
Misc ....
....

Note—When there is no essential change in the daily physical findings do not fill out the next form but enter the dates of the examinations on the date line.

Then for each lobe of the lung we had a form. For example, for each lobe: fremitus, dullness, breath sounds, voice sounds, crepitant rales, small moist rales, large moist rales and sonorous rales. Space was provided for the heart, abdomen, lympho-glandular system, and a rather ample space for miscellaneous findings. A scheme for daily physical findings was also arranged. As you see, we made an effort to establish a quantitative rather than a qualitative record, so that later when we came to draw conclusions from our work we would have data that were capable of graphic representation and mathematical expression. Some of the results aimed at in the clinical investigations were to do away with impressions and personal fallacies, to group data and to get records that were the result of accurate investigation rather than the result of impressions. First impressions tend to stick and to obtain an undeserved prominence. We see a thing once; it strikes our attention forcibly and we give an undue amount of value to that impression. That impression carries on. It is the unfortunate lot of all of us to have suffered from the inertia of an idea. A hackneyed example is that of the idea which becomes incorporated in a text book and which it takes fifty years to get rid of.

The mistakes that we have made—the places where we should have done differently—are numerous. I feel very much in sympathy with Bill Nye when he came on the stage and read a High School valedictory address in which he said: "When we look back through the long vista of life we see that if we had not done as we did we should have done different," and many are the instances, in this work, where if we had not done as we did we should have done different. But we feel that we have accomplished something. We have had a group of men who worked together—and we reiterate that this is worth much.

What Is Influenza?

We do not pretend to answer this question. No one has answered it as yet, but from the clinical standpoint it appealed to us—I think I may speak for the majority of the commission—that we were dealing with an epidemic of broncho-pneumonia. We learned early that broncho-pneumonia could be diagnosed in the vast majority of cases if it was looked for but that it could not be diagnosed frequently if the cases were examined only at rare or irregular intervals. Examinations had to be made often, preferably twice a day and with a considerable amount of care. It seemed from our post mortem experience that impairment of resonance, disturbance in breath sounds, and localized accumulations of moisture or the latter alone was sufficient to establish, from a clinical standpoint, the diagnosis of broncho-pneumonia. In brief it seemed reasonable to assume that influenza could be diagnosed absolutely only when broncho-pneumonia was present. It seemed to be the one characteristic clinical finding and it seemed to be the one characteristic pathological finding. The autopsies all showed bronchopneumonia, and if reasoning backwards from an autopsy is a valid method and if an autopsy is of any particular value in determining what has been the matter with an individual we must be pretty much forced to the view that broncho-pneumonia was essential to the disease picture. From the upper respiratory symptoms that preceded the broncho pneumonia and from the upper respiratory symptoms that did not go on to a broncho-pneumonia, one could not make a diagnosis. Many cases that were called "flu" we are convinced would have been called "grippe" in other years. I think Dr. Manning will bear us out in the statement that the vast majority of smallpox cases reported recently have been wrongly diagnosed at first and reported as "flu." The "typical" onset with a general toxemia, with upper respiratory disturbances, with coryza, with tonsillitis, with bronchitis, etc., is all common to other infections.

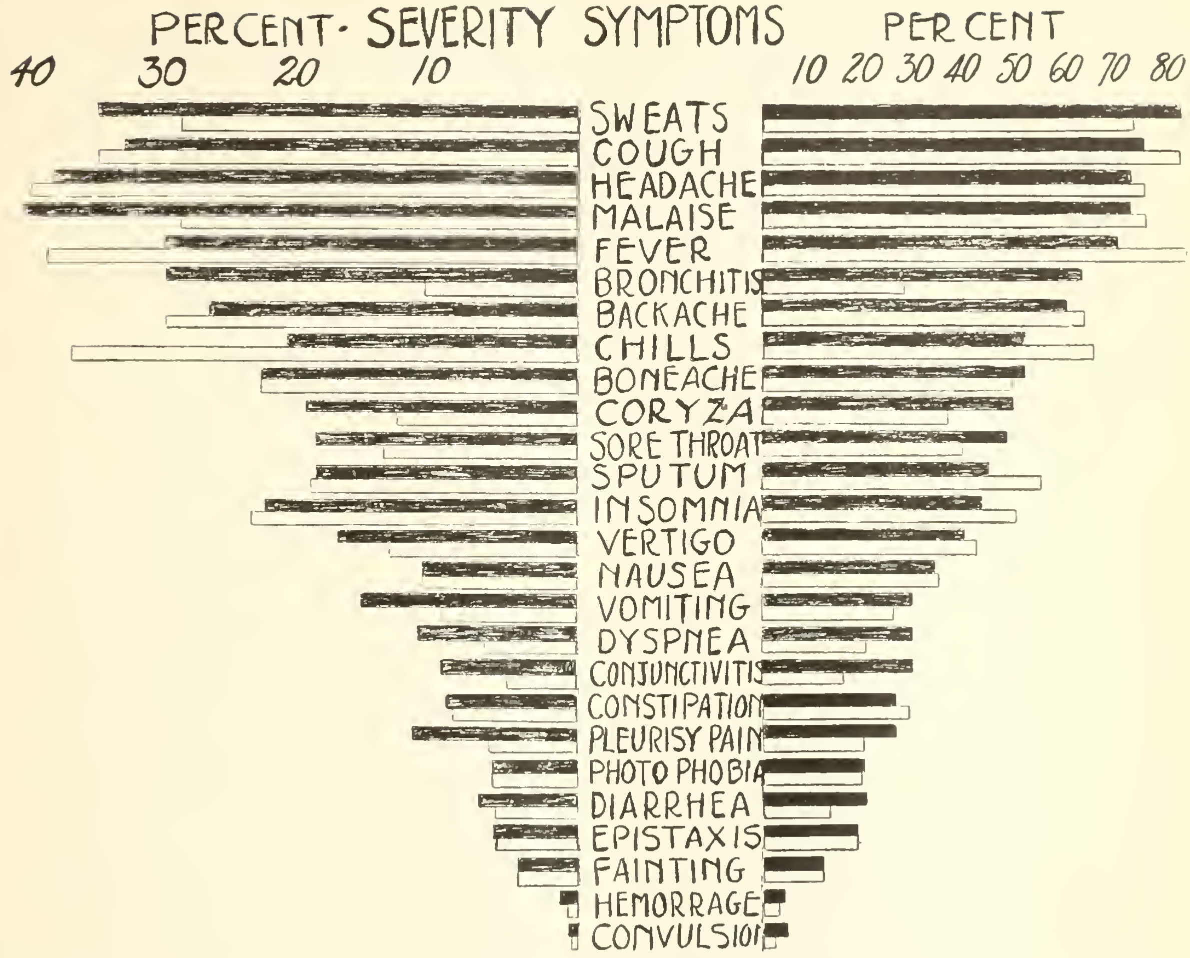
In the first epidemic, out of two hundred and eight cases seventy-seven per cent had a demonstrable broncho-pneumonia. In the last, out of one hundred twenty-five cases analyzed eighty per cent had broncho-pneumonia. So, broncho-pneumonia, so far as the epidemic here is concerned, was the one definite clinical manifestation. It was the most frequent, and by far of the most importance in the establishment of a diagnosis.

We have asked Dr. Heagey to get together and plot some of the data obtained by the method evolved for attacking the clinical problem.

Dr. F. W. Heagey.

In taking up the study of the epidemic from the standpoint of the symptoms we have constructed a chart that will enable us to compare both the frequency and the severity of the symptoms. This chart and the per centages upon which it is based were secured from a total of five hundred and eighty-seven cases of influenza in the University Hospital and St. Joseph's Hospital. We were able to study about three hundred and thirty of these cases in considerable detail. When the evaluation of the data was begun it was thought that we were dealing with two separate and distinct phases of the epidemic. The first phase dated from October 30th to November 25th and consisted almost entirely of the broncho-pneumonia type of cases. The second phase from November 25th to December 30th consisted more of the uncomplicated febrile type. It was seen after the data had been placed on the chart that there was very little to differentiate the two charts from each other either in the severity, or frequency, or mortality records.

The twenty-six symptoms which were chosen in the preparation of the history sheet for special study have been placed in the central column of the chart in the order of their frequency. On the right of the column will be found the parallelograms constructed in proportion to the percentage number of times that each symptom appeared in the total number of cases. The first group of cases, i. e., from October 30th to November 25th consist of two hundred and eight cases and is represented by the upper bar opposite each symptom. The second group i. e., from November 25th to December 30th consists of one hundred twenty-five cases and is represented by a bar placed immediately under the bar of the first group. On the left side of the column of symptoms will be found two bars placed in the same order but rep-



resenting a percentage of severity. These severity percentages were obtained in the following way. The symptoms were placed on the history on a basis of "4" as has been explained in Doctor Dunn's article. In adding up the number of cases it was found necessary to put some greater value on the cases whose symptoms were more severe. Therefore the number of cases in these more severe groups represented by plus "2," "3" and "4," were multiplied by these group numbers and these results of multiplication added together. The result was that this total was considerable larger than the actual number of cases having that special symptom. For example if there were one hundred cases having headache in the plus "1" group, twenty cases in the plus "2" group, two cases in the plus "3" group, and one case in the plus "4" group, it would mean the addition of one hundred, forty, six and four, making a total of one hundred fifty, whereas, the actual number of cases having headache were one hundred and twenty-five. This sum obtained by multiplying the number of cases by their group number was divided by four times the total number in the group. In this case by four times two hundred and eight or eight hundred thirty-two, which gave us a percentage of eighteen per cent.

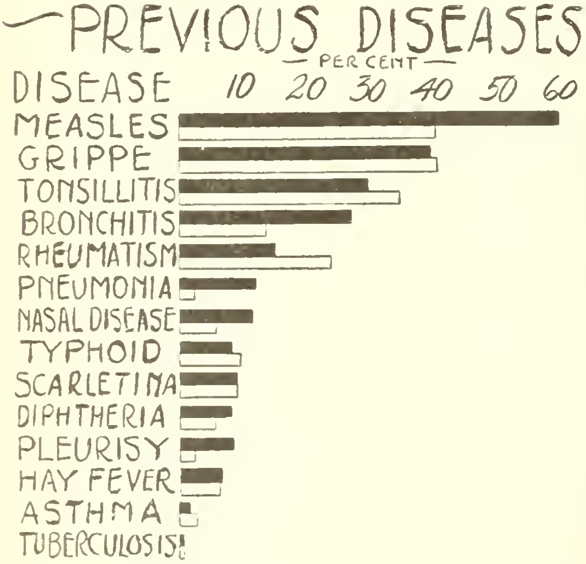
On a study of the chart it will be observed that there are five symptoms predominating in frequency and severity, i. e., sweats, cough, headache, malaise, and fever. Although headache is three in frequency it stands first in severity in both phases of the epidemic. Fever seems to be more severe and more frequent in the second phase. This also is true of chill and headache. The only other marked difference between the two phases is the great falling off both in severity and frequency of the symptom bronchitis in the second phase. This leads us to think that there must be also a great decrease in the frequency of the pneumonic involvement in the second phase of the epidemic. But upon tabulating the presence of lung findings in the two phases we find that in the first one hundred cases eighty-two per cent had bronchopneumonia, while in the first group of two hundred eight cases, seventy-seven per cent had pneumonic involvement. In the second phase of the epidemic the per centage of the cases with lung involvement was eighty-one.

The early cases in the epidemic gave evidence of greater frequency of gastro-intestinal symptoms but this involvement of the alimentary canal soon gave place to the pulmonary type of the disease.

The first group of cases had an average leukocyte count of 11,700 with a polynuclear percentage of 71. The second group averaged 8,300 cells with a polynuclear of 61 per cent.

There were twenty-seven deaths in the first group of two hundred eight cases and twenty deaths in the second group of one hundred twenty-five cases.

Several interesting facts are to be noted in connection with the history of previous diseases in these influenza patients. It will be seen in the first place that very few of the cases gave any history of respiratory affection. Tuberculosis is at the bottom of the list. Asthma, nasal affections and pneumonia were also well down the list. Measles is the predominating infectious disease heading the column, while its running mate scarlet fever is quite widely separated from it in frequency of occurrence.



In the early cases the average age of patients was twenty-three years. This seemed to be accounted for by the fact that older individuals had probably had the grippe in the epidemic of '89 and had thus acquired a certain amount of immunity from the present infection. In the second group it will be noted that over forty per cent of the cases gave a history of previous grippe infection and this is borne out also by the increase of the average age of these later cases.

Dr. J. T. Myers.

I shall not take very much time in the discussion of the bacteriological phase of the subject of influenza, because as you know, it is still in a rather chaotic condition. The thing one first thought of naturally was the organism of Pfeiffer—the so-called bacillus influenza—which is supposed to be the cause of influenza vira. It was first discovered in 1892, by two men, Pfeiffer and Kitasato. Because of the larger amount of work done by Pfeiffer and the better controlling of his work, we have called it the Pfeiffer bacillus. This organism of course was not discovered until 1892, while the height of the epidemic was in 1889 and 90. Therefore, when we started our work, (which of course has been very decidedly brief, not nearly as full as we would have liked to have made it because of lack of workers and time), we used media which would show up Pfeiffer's bacillus if it were present—that is, a medium which contained whole blood because the constituent which is necessary for the growth of the Pfeiffer bacillus is hemoglobin. Therefore in making cultures from sputum, blood, and lungs, human or rabbit blood was always added to the medium.

In making blood cultures 5 to 10cc of blood were taken from a vein under aseptic conditions and placed in a flask containing 100cc of litmus milk. We found that out of some fifty blood cultures twenty-three were positive, the others being sterile. That is to say we obtained a percentage of almost fifty of positive blood cultures. The organism most frequently recovered was of a rather indefinite type. It resembled the pneumococcus in a good many ways, the streptococcus in other ways. It produced a green color when growing on blood agar, did not ferment inulin, and was not soluble in bile and when first isolated had a tendency to form short chains. But it had many of the characteristics of the pneumococcus particularly in morphology and milk reactions. It is decidedly pathogenic for mice. A small amount of the culture—a fifteenth to a twentieth of a 24-hour blood agar slant would kill a mouse in from twelve to twenty-four hours, when injected intraperitoneally. In this way it resembled the pneumococcus. Three of our blood cultures were found to be true pneumococci and would agglutinate type 2 serum. We found no type 1 or type 3. Practically all of the organisms had the above described characteristics which would place them in the streptococcus viridans group or perhaps in the type 4 group of pneumococci.

In the autopsy work the pathological findings were similar in almost every case. The pneumococcus was found in most instances in the lungs, but in a few cases streptococci were found.

(Dr. Dunn informed Dr. Myers that Dr. Stevenson would not be present and requested that he go on with the report on the pathological work).

The pathological findings were briefly as follows: Considering first the lung, where we would expect to find the pronounced lesions, we found, with one exception, in all the posts that were made a rather peculiar type of broncho-pneumonia. Usually the pneumonia was massive but it was not a typical lobar type. The lesions were patchy. It was typically broncho in most respects. Frequently in the same case one would find some areas of involvement which were almost in the stage of resolution and some which were in the stage of early red habitization—in short, all of the stages of pneumonia were frequently present in the same lung. This would indicate that the pneumonic process began in one portion of the lung and spread by continuity. We found also that in practically every case, the bronchioles were involved. In many instances we were able to express pus from the bronchi. I think practically always there was a tracheitis. This would indicate that the condition was a bronchopneumonia originating in the bronchi and spreading from thence into the lung substance. It would indicate that the infection was not hematogenous.

Some peculiar characteristics were noted. There was a marked hemorrhagic appearance throughout the lungs—not the ordinary type of red hepatization. This condition was present in almost all of the autopsies. There was usually a pleuritis, slight or absent in some cases, but marked in others.

In many autopsies characteristic intestinal lesions were present. Frequently no gross changes were apparent on the outer part of the intestine but when opened the pathology was quite marked. Near the ileo-cecal valve there was usually a marked hemorrhagic condition, sometimes slight, in other cases very marked. This condition was especially noticeable in the upper part of the cecum and the lower part of the ileum. In some autopsies, however, there were no lesions apparent in that region. Some cases showed an acute gastritis.

About sixty or seventy sputa were examined bacteriologically. Pfeiffer's bacillus was found but once. Hemolytic streptococci were found in a considerable percentage of cases. Pneumococci were present in a large number of cases. Unfortunately no serological work was done because we did not have the time to go into this phase of the problem. However, the predominating organisms appeared to be the pneumococcus or perhaps that peculiar organism which might be a pneumococcus or a streptococcus viridans, described above.

A few statistics as to the findings of workers in other parts of the country may be of interest.

M. J. Rosenau and Keegan, working in the Naval Hospital at Chelsea, Mass., found Pfeiffers bacillus in a large percentage of cases examined at the beginning of the epidemic. It was found in sputum and lungs. During the latter part of the epidemic they have been unable to find bacillus influenza, and streptococci and pneumococci are the predominating organisms.

W. H. Park of the New York City Health Department reports a similar experience.

F. O. Tonney of the Chicago Board of Health laboratories found Pfeiffers bacillus in 12% and type IV pneumococci in 90% of cases examined.

Nuzum at the Cook County Hospital, Chicago, in examining 3000 cases found Pfeiffers bacillus in 8.7% and type IV pneumococci in 60% of cases.

Present Kyes made blood cultures from two thousand cases and recovered pneumococci of all types in fifty per cent.

Hirsh at Camp Grant reports similar results.

The late George Mathers of the McCormack Institute for infectious diseases, Chicago, found an organism identical with the peculiar organism so frequently found in Omaha.

D. J. Davis of Illinois College of Physicians and Surgeons, at Chicago, has made a special study of the influenza bacillus for a number of years. He studied the flora of the sputum of a considerable number of cases, with the following results: Pfeiffers bacillus was present in 17% of cases in an epidemic of grippe, in 59% of cases in an epidemic of pertussis, in 35% of cases in an epidemic of measles, and in 50% of cases in an epidemic of chicken pox. In a group of normal students Pfeiffers bacillus was found in 10% of cases. This would tend to prove that Pfeiffers bacillus was not the cause of influenza.

The concensus of opinion now seems to be that the present epidemic of respiratory disease was due primarily to some unknown virus and that serious results were due to other organism present previously in the respiratory tract. However, some consider that the pneumococcus may be the cause of the disease.

In conclusion I would like to reiterate what has been said by Dr. Dunn and Dr. Manning. If nothing else has been accomplished, it has at least done two things. The first one is the development of a quantitative method for reporting clinical symptoms a method which is capable of being tabulated. The second is the development of a spirit of cooperation between different agencies for the purpose of medical investigation. This, I think is the first time anything of this nature has been attempted in Omaha.

Dr. Manning called on Dr. Bridges to discuss the Special Complications, other than bronchopneumonia, or including bronchopneumonia.

Dr. W. O. Bridges.

I don't know that I have very much to say on this subject because my experience and observations have been rather limited outside of broncho-pneumonia, which Dr. Dunn seems to assume is really the influenza, and I take him that you can't have Spanish Influenza without broncho-pneumonia. Am I right, Dr. Dunn?

(**Dr. Dunn.**—That you can't make a diagnosis of Spanish influenza without it).

Spanish Flu is a name created by the newspapers of not only this country but possibly some other countries, which has created excitement. If you see the Bee and News and Herald come out with headlines about two inches high of "Spanish Flu" it is sure to create excitement. I for one, want to protest against the use of the name. Influenza should not be called "flu." That is a word coined by the newspapers.

I believe that we can have influenza without having broncho-pneumonia. In fact, where work has been done along this line, on the sinuses of the head, it has been found that practically the same pathological condition is found there as is found in the lungs. There is exudate, bloody exudate, practically the same organism as have been found in the lungs, and also the areas of pathological changes appear to be older than those found in the lungs, which would indicate that it had originated in the upper respiratory tract and did or did not go down. Now, I believe we have influenza without being able to detect any particular change in the lungs from any physical examination.

Speaking of the broncho-pneumonia complication—which I prefer to so call it—the most severe type is the double pneumonias or the migratory pneumonias, which evidently start in one part of the lung and extend to other areas and from one lung to the other, so that you have all stages of pneumonias found at autopsy, depending upon the duration of the disease.

Outside of broncho-pneumonia, in my experience the complication which occurred most frequently was phlebitis involving the femoral vein. These have been of a mild type, have been sequelae rather than a complication. In one instance it developed in one leg and then went to the other.

The most severe complications I have seen were hemorrhages in different parts of the body. One of the worst cases of hemorrhage was from the intestine—the discharges were bloody in character and copious and frequent, resembling, you might say, bloody flux and yet not a dysentery because there were no symptoms of dysentery, no straining, and no mucus accompanying them. One of these cases had influenza, developed a broncho-pneumonia, progressed about four or five days and then this hemorrhage ensued, and it went on to recovery.

Another case, which I did not see, under the observation of a personal friend. Hemorrhage came on very rapidly after the onset of symptoms and the patient vomited and passed considerable blood from the bowels, and the case terminated fatally in less than seventy-two hours.

Two cases of purpura occurred as sequelae where there was a history of influenza of rather minor degree associated with bronchopneumonia, but in which there were hemorrhages from all parts of the body—from the mucous membrane of the nose, mouth, bowel, kidney and there were large areas of purpuric spots over the body. One case recovered, one did not.

We have seen also a number of cases of empyema. We recognize the fact that empyema may be classified as a sequel, as a complication, and as being a part, practically, of the pneumonic process itself, but most of them are sequelae. I made the statement about two months ago that we would have a large number of empyemas because we had seen a number of cases of so-called unresolved pneumonia which proved to be empyema. It is worth noting that these unrecognized empyemas will go on to a fatal issue in most instances for want of surgical relief.

One other sequel is that of septic endocarditis occurring in patients who were known beforehand to have had endocardial diseases, heart murmurs, and rheumatic fever, in whom the influenza left a septic affair, with all other symptoms subsiding except those referable to the heart.

A sequel which I think we find in a great many cases of influenza which do not go on to the more serious illnesses is the effect of the infection upon the heart muscle. Patients are slow to recuperate, weak, easily exhausted, the pulse remains rapid, for several weeks or even several months, after the fever has subsided. This might be a myocarditis. Many go on to recovery, although very slowly.

Dr. Manning.

Dr. Sachs has had considerable experience with the flu in handling the S. A. T. C. of Creighton, and I would like to have him tell us of his observations and experiences.

Dr. A. Sachs.

It will be rather difficult for me to give a systematic resume of my clinical experiences with the flu, for I did not know that I would be called upon at this time. Therefore, if my statements appear somewhat disconnected, you will pardon the same.

Dr. Langdon and myself were the Contract Surgeons of the S. A. T. C. of Creighton, and we had an epidemic of influenza which attacked a great number of our students. During this epidemic, we had 108 cases. The epidemic started six days after the boys were put into barracks. Our quota at the barracks was 540 men. The highest number of cases we had in one day was 38, which was the third day after the start of the epidemic. This being a military camp, gave us full control of all the men and we were able to stamp out the epidemic in a short time. We had no new cases develop after the eighth day that our system was put into effect. The method we pursued was as follows:

Immediately after the epidemic started, all the departments of the University were closed. We enlisted the students of the senior and junior classes of the medical college, and formed a day and a night patrol. The work of the students was in charge of either Dr. Langdon or myself, all of the time. The temperatures of the men in the barracks was taken twice a day. On appearance of the slightest degree of temperature, patient was put in a temporary isolation ward. If a man had a headache, symptoms of malaise, or otherwise appeared ill, he was also put in the temporary isolation ward. We did not wait for the men to report for the two daily sick calls, but hourly reports were made by our sentries. If the cases in the isolation ward developed further symptoms of influenza, they were immediately sent to the hospital. If they remained, a mild type, they were kept in isolation until we were absolutely sure that all danger of influenza was over. By this method, we were able to control all cases, and get them early. The quarantine was absolutely enforced throughout the encampment. Of these 108 cases, we had 57 hospital cases. Here again, having absolute control, we could keep them under close observation and absolute rest. Of these 108 cases we had eight cases of distinct pneumonia. All cases showed some bronchial signs. Of this number, we had one empyema, one unresolved pneumonia, one middle-ear disease, two frontal sinusitises. We typed all of our pneumonias, and found none of them to be of the Type 1. For that reason, no serum was used. All of our typing was done by Dr. M. G. Wohl.

All of our cases ran a very mild course, except the latter ones reported above. We had no deaths. The only two severe cases that we had on hand for any length of time were the unresolved pneumonia and the empyema. The average number of hospital days, was 16. We kept our patients in bed at least five days after the fever had subsided, and then allowed ten days for convalescence. We feel that by getting these cases to bed early and keeping them there, the disease ran a mild course.

There are a number of things which I was particularly interested in during the epidemic, the results of which I observed not only during my S. A. T. C. work, but also in my own private clinical cases. First of all, I wish to mention the intense toxemia that all cases presented. This toxemia was out of all proportion to the pathology that we had at hand. Most of the cases that died, were a distinct toxic death, and not at all typical of the pneumonias that we are accustomed to seeing. The pneumonias were clinically, all of the broncho-pneumonic type. Those that presented distinct lobar findings, were probably confluent bronchial-pneumonias. The toxemia that these cases presented was out of all proportion to the lung findings. Many developed a rapid oedema and exodus soon took place.

The cyanosis was one feature which I am sure you all noticed very early in the disease. This cyanosis was also out of all proportion to the pulmonary findings. The extreme cyanosis for that reason, could not be entirely explained by a lack of oxidation. A great many of the cases developed extremely high temperatures, 105, 106, 107, which was also out of all proportion to the involvement of the lungs.

The extreme weakness and prostration was noticed from the very onset of the disease, and continued through a prolonged convalescence. Some authors claim that the toxemia acted as a direct poison to the central nervous system, and proved the same by the large number of nervous complications that followed. If this be true, it might explain the severity of the above symptoms with small physical findings. The blood picture was as Dr. Heagey described it, a low leucocyte count, with relatively no change in the differential count. Those cases that developed an empyema were usually predicted by the sudden rise of the leucocytes to 18,000 or more, and increase in the poly count.

We are at a loss to explain the exact cause of the severe hemorrhages that were observed from the nose, mouth, lungs, stomach, et cetera. Many of them were of a severe type and were the direct cause of death. One cannot explain them from the physical findings that we had at hand. The coagulation time was practically normal, so this could not be given in explanation of the same. Dr. Wohl reports that he noticed an increased fragility of the red cells in a few cases. The hemorrhagic skin eruptions were very marked in some cases, and resembled somewhat those cases seemingly produced by the streptococcus hemolyticus. This however, could not be proved up in the laboratory by blood cultures, etc. Some of the pneumonias, with large area of consolidation, had a typical crisis. However, the toxemia continued, the severity of the symptoms progressed. and death took place without further elevation of temperature. All cases were characterized by a slow pulse, and some of them continued their slow pulse during their entire convalescence, some even going down to thirty per minute. It appeared almost as a partial or a true block. No tracings were made on account of lack of time and insufficient help. However, we feel sure that true block could not have been at hand, because of the rapid recovery to normal at a later time.

It has been our observation that a number of patients that appeared extremely sick and appeared as if they were going to die, suddenly developed an empyema, and after being properly drained, made uneventful recovery. It is our opinion the effusion acted as a protective measure, and hence the sudden change.

A number of the ear complications were of particular interest, on account of the deafness which could not be explained on the basis of the salicylates. They had absolutely no pain. However, the drum membranes ruptured, the deafness soon disappeared, and recovery was uneventful. It was impossible to detect any bulging the day before the drum membrane ruptured.

The treatment will undoubtedly be discussed by someone else, and for that reason I do not wish to take any more of your time, but I would merely like to state, that as far as treatment goes, the further you read, the more you hear, the less you know.

Dr. Manning.

Some of the men seem to have positive opinions on this epidemic. I wish they would give us their opinion.

Dr. Goetz, will you give us your opinion?

Dr. Goetz.

I don't know what is positive except what I heard here. Most of the results of this talk has been "I don't know."

One or two symptoms that I have noticed I haven't heard mentioned a great deal. One is the severity with which this disease attacks pregnant women. I saw a great many of them, and all that I saw died, except one. This one aborted, and the symptoms disappeared immediately.

One symptom which Dr. Sachs touched upon and which seems to me is characteristic of this disease is the peculiar cyanosis. You would get an almost magenta color to the lips before the marked blueness occurred with the pneumonia.

Another thing that I have noticed is the extremely slow resolution which takes place in cases even after they have been well for some time.

In pretty nearly every case I saw—over eighty per cent—I could find local lung findings and I feel and have felt right along that it was an epidemic of broncho-pneumonia.

Those are my positive opinions.

Dr. Manning.

We would like to hear from Dr. Ellis.

Dr. Ellis.

I don't know what Dr. Manning means. I saw a good many die, and I was positive of that, but I would like to ask someone—perhaps Dr. Dunn—to tell us what value he places upon the vaccines.

Dr. Dunn.

As to the value of vaccines—it is another case of "I don't know."

The immunological principle of vaccines is fundamentally right. There will have to be a lot of experimental work more carefully controlled than any that has come to notice as yet before the question can be answered. Personal experiences are especially fallacious and it will only be when vaccines are tried on vast numbers of cases, and much more carefully controlled than we are able to control them in any institution in Omaha, that even a tentative conclusion may be arrived at.

It is imperative, however, that we be as frank with the patient as we are with ourselves. I am accustomed to answer patients much as follows: "It is absolutely experimental. It won't hurt you. It is scientifically on a sound principle but its worth is unproven. Take it or let it alone. We took it ourselves. It's up to you."

Dr. F. E. Coulter.

Just a question in regard to quarantine. There are records of people living twenty, or thirty, or forty or even fifty miles out in the mountains, among ranches, who never see anybody and they have flu and die of pneumonia, and I was of the opinion that quarantine did not do much good, and I was wondering what the idea of the Health Commissioner is?

Dr. Manning.

The Health Commissioner takes a great deal of pleasure in talking about quarantine.

The State Board of Health supposedly asked the Health Officers from counties and cities, and villages, of the state, to meet down in Lincoln about three weeks ago, to talk over the influenza and the best way to handle it. I went down, for which I am duly sorry.

There were mayors of little towns of three hundred inhabitants, school teachers, chiefs of police, and bankers, and so forth, who had the problem absolutely solved, and they knew the best way of handling the epidemic. There were a number of little bits of villages out there that had twenty to thirty cases which they quarantined, and because they had only five more typical cases they decided that quarantine was a good thing. That is what the State Board of Health acted on. That and that only. There were about five per cent of doctors at that meeting. They almost universally voted against quarantine but they were absolutely overruled. That is what this quarantine means. You can't say anything more about it than I can. It seems to me that quarantine is useless. It is the carriers who spread it in most cases—the ambulatory cases that keep it going. We cannot quarantine against carriers. Again, to quarantine a case carries with it the assumption that there is some positive means of diagnosis. Is there in influenza? In no sense of the word. Can you say this man had a bad cold—grippe—and this man had influenza. And it is the light cases that carry it.

When are you going to limit your quarantine? They say four days after the temperature is gone. How about the persistent cough. Do you KNOW that that is not contagious?

I think quarantine is a farce. There is this about it—it carries with it a certain fear which is of advantage. It will stop possibly some of the indiscriminate house to house visiting. We hoped to do that with placarding.

I wrote the State Board of Health. Remember now—a City Board of Health can magnify but it cannot minimize the rulings of the State Board of Health. I had no choice. I wrote that I could not get doctors to report. They telephoned back that it might be pretty hard to quarantine places like the Blackstone Hotel, and that it might work a hardship on wage earners—that under those circumstances they would make this modification: Have wage earners each morning come down to the Board of Health office and be examined and then go on to work!

But this is the thing that strikes me: We MUST quarantine scarlet fever, diphtheria, and smallpox. I am afraid that people are going to get a light idea of quarantine. We cannot enforce this influenza quarantine and it is going to make them think lightly of other quarantinable diseases too.

Dr. Ellis.

Does one attack immunize against a second, and if so, for how long a period?

Dr. Manning.

I haven't been able to find one single second attack of an absolute case of influenza. You hear of them, but when you investigate you find that the symptoms were not the same in the second and the first attack, so there is a question as to the genuineness of one or the other attack.

Dr. Towne.

Can any case of the disease having been carried from one individual to another be proven?

Dr. Manning called on Dr. Myers to give the Rosenau experiments, which indicate that the transmissability has not yet been proven.

Dr. Gifford.

We don't want to be tricked off our feet by stories of mysterious cases occurring away out in the ranches. We know mighty well that it is contagious—some agent causes it. I came here expecting to hear a discussion of masks. It seems to me the mask idea has gotten a good many black eyes that it didn't deserve, if there is any merit in contagion. I think the place to use the mask is on the patient but I don't like to see a pneumonia patient who needs all the air he can get wearing a flu mask. It seems to me some arrangement whereby the mask would be open at the sides, permitting the patient to breathe freely might be used.

Dr. Manning.

Our experience with the use of masks has not been very favorable. At the beginning of the epidemic masks were advised wherever anyone had reason to suspect that he was being exposed to the disease. All attendants in hospitals were compelled to wear masks continuously. However, about two weeks after the epidemic started at least seventy-five per cent of these attendants, consisting of nurses and internes contracted the disease. On theoretical grounds, if at least eight layers of gauze are worn in front of the air passages a high degree of mechanical prevention of infection will undoubtedly occur. Most of the masks, however, in common use, are made of only four or five layers, and the protection is only partial. Again, masks should not be worn more than two hours continuously. After this time they should be sterilized. I think however it is a very reasonable precaution to insist on all those who must expose themselves to the disease to wear masks during such exposure.

Dr. Powell.

Summing the thing up from a surgical standpoint, I want to tell two stories for the benefit of the Amusement Committee:

A doctor in a small town was asked by the banker, "What is flu?" The doctor, who was very busy, said: "Flu is grippe and grippe is flu." But the doctor was taken sick and had the flu, and he nearly died, and as he hobbled around the banker met him and said: "Now what do you think of the flu?"

The doctor replied: "Influenza is influenza; la grippe is la grippe, and the flu is a hell of a thing."

To summarize: After listening to a number of the speakers of this symposium, I am reminded of a story which is pretty old but applies to this question very well. A fellow had a canary bird in a cage. He was asked how he told one bird from the other. He said: "Well, how do I tell the he canary bird from the she canary bird—well this is the way. You take a worm and put it up in front of the cage and if the he comes up first it is the he bird, and if the she comes up first it is the she bird."

Dr. Wherry again took the chair.

A vote of thanks was given to the Committee for the Program.

The meeting adjourned for a buffet luncheon and social hour.

A Few Observations on the Epidemic of Influenza and Pneumonia.

Michael G. Wohl, M. D., Omaha.

It is the purpose of the present communication to discuss briefly the laboratory findings of "Spanish Influenza," and pneumonia that occurred in Omaha and its vicinity during the past five months.

Influenza made its first appearance in epidemic form in Omaha the early part of October and continued unabated until the latter part of December.

Clinically it resembled closely the picture of influenza and pneumonia as they prevailed throughout the country. A good illustration of the symptomology of the Omaha epidemic was recently given by Dr. A. D. Dunn, (Journal of American Medical Association, Dec. 28th, 1918, p 2128).

The bacteriological findings of this epidemic made so far have been inconclusive. The bacillus of Pfeiffer was not uniformly found by all investigators. Little, Garafolo and Williams (Lancet, 2, 34, 1918), failed to find the Pfeiffer bacillus but found a gram negative diplococcus. Matters (quoted by Tunnicliff-Journal of American Medical Association, Nov. 23rd, 1918, p 1733), isolated a green producing streptococcus from the sputum in 87 percent of 110 cases of influenza and pneumonia examined. Matin, (British Medical Journal, 2, 281, 1918), Park (New York Medical Journal, 1918), on the other hand found the influenza bacillus both in smears and cultures and believe the epidemic to be true influenza. In this connection it should be noted that the bacillus of influenza is frequently found in the throats and sputums of those suffering from pneumonia, tuberculosis, whooping cough measles and chronic bronchitis. (Davis, Journal of American Medical Association 1915, 64, 1814).

From the great amount of contradictory work done, one fact stands out most prominently and that is—the etological factor of the disease remains a mystery still to be solved. However it seems certain that the influenza virus leaves the body in a defenseless state and different organisms multiply and produce various complications among which pneumonia is the most frequent and gives the highest mortality rate. The variety of the complicating microorganisms has been found to vary in different portions of the country.

A knowledge of the nature of the secondary invaders as they occur in a certain locality, therefore, is important; particularly when "wholesale" prophylactic administration of vaccines is undertaken.

Our studies comprise eighteen cases of influenza and twenty-nine cases of post influenzal pneumonia.

Smears and cultures were made from washed sputums of each case. The medium used was unlaked blood agar. Lactose and mannite were employed for identification of streptococci. For the pneumococcus type determinations we used the Avery Medium and intraperitoneal white mouse inoculation.

Out of forty-seven sputum cultures the bacillus of influenza was isolated only twice in pure culture.

In stained smears from sputum a bacillus resembling Pfeiffers was seen on three occasions in association with streptococci and pneumococci. The predominating organism in influenza was the streptococcus of nonhemolytic type. The individual cells of tl streptococcus were rather thin and united in short chains. Bile was not soluble. They fermented lactose and not mannite media. The streptococcus was entirely different from the one isolated by Dr. A. K. Detweiler and the writer during the Omaha epidemic of "Streptococcic Grippe" in 1916 (M. G. Wohl

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and A. K. Detweiler, Interstate Medical Journal, Sept. 1916, p 729). Many other organisms were found, like the micrococcus catarhalis, staphylococcus. The pneumococcus in the uncomplicated cases was not a common finding. Twenty-nine cases of pneumonia were studied for type determination. In three cases the pneumococcus was of type one; nine cases of type two; five cases of type three and eleven were of type four. In one case the offending organism was a hemolytic streptococcus.

The identification of the type of pneumococcus is important. Shattuck and Lawerence (Boston Medical and Surgical Journal, Vol. CLXXVIII, p 245) from an analysis of over 3,000 cases of pneumonia treated at the Massachusetts General Hospital from 1889 to 1917, arrived at the conclusion that the general medical treatment has done nothing to reduce the mortality of pneumonia. However the treatment of pneumonia of type one by serum has proven very encouraging. The beneficial results in the use of type one serum for the treatment of cases of pneumonia infected with type one pneumoccus is so well established that our Army Base Hospitals have introduced the determination of the type of pneumococcus as a part of the routine treatment of cases of lobar and broncho pneumonia. (W. Vaughan, Journal American Medical Association, Feb. 16, 1918, p 431).

Hemotology.

Our blood counts were rather limited in number. However in twelve cases of uncomplicated influenza there was noticed a tendency to a leucopenia. The ratio of the differential count was very little disturbed. The average leucocyte count being 6,200. The average polymorpho nuclear count 68%. The casinophiles averaged 4½% uncomplicated cases. When complications set in, leucocytes increased and casinophiles diminished. The occurrence of the leucopenia is rather interesting from an etiological point of view. Influenza is characterized by a marked leucopenia; the injection of Pfeiffer bacillus causes a leucocytosis, just the opposite. This fact, as was well brought out by Vaughan, (Journal American Medical Association Dec. 21, 1918, p 2100) speaks rather convincingly against the Pfeiffer bacillus being the etiologic factor of influenza.

Since bleeding from the nose and mouth was a common clinical occurrence we tested the coagulation time of blood of eight cases of influenza and found the average coagulation rate to be within the normal limits—three minutes.

Normal red cells can remain for hours in isotonic salt solution without damage. However if they are placed in salt solution of about .45 percent they hemolyse.

In four cases of influenza the erythrocytes showed a diminished resistance to salt solution-hemolysis commencing in .6 percent and being completed in four-tenths percent. Whether the epistaxis of influenza could be explained on this basis, we are not prepared to state, yet it would seem to indicate that the toxin of the unknown virus of influenza has a depressant effect upon the hemotopoetic organs.

I wish to express my thanks to the following men, whose cases were studied and through whose kindly cooperation these few observations were made possible: Drs. A. Sachs, R. E. Schindel, J. R. Dwyer, J. Gleeson, Phillip Sher, C. E. Clark and authorities of the Ford and St. Joseph Hospital of Omaha.

A Botanist's Suggestions on the Influenza.

Carnegie Institution of Washington, Department of Botanical Research, Desert Laboratory, Tucson, Arizona, Dec. 17, 1918.

Dr. F. A. Long, Madison, Neb.

Dear Doctor Long: The renewal of the Influenza epidemic in so many sections has made me feel more or less conscience-stricken in failing to press my own conviction that our methods of control are more or less inadequate. I am bothering you about the matter, because I recall that you were chairman of the Publication Committee of the Nebraska State Medical Association Journal, and would doubtedly know how to get the facts before the physicians as well as the public.

What has especially aroused my interest is the fact that all the accounts agree in saying that the epidemic is transmitted in some mysterious way. This seems to me a rather unintelligent attitude toward it, since I can see no possible way of transmission except by actual droplets conveyed in speaking or by contact, direct or indirect. The latter seems to me to explain why it is that masks are only partially efficacious, and I cannot resist the conviction that if we were to take something of the same care that the modern surgeon does in connection with an operation, the epidemic would be stamped out almost over night.

The germ theory is such a hazy matter to most people that it never dawns upon them that when they use their handkerchiefs and immediately shake hands, that they are transmitting the infection—or in this case I suppose it should be called the contagion—directly. When you think of people's habits in the matter of handling articles of merchandise, money, dishes and table utensils of all sorts, the wonder is that all of us do not have the influenza. I realize the great difficulty of educating people over night in matters of such fixed habits as these, but it seems almost indispensable if the epidemic is finally to be stamped out, and it would certainly prove a blessing, even under ordinary conditions, since the common or garden variety of cold and grippe must be largely spread in this way.

Frances says you have fifty new cases, and I assume that this means that the epidemic is still raging severely in Nebraska. Since Tucson is a tourist center, we know very little about it here, though the news has finally leaked out that out of nearly 700 cases there was a mortality of 10 per cent. Perhaps this is higher than usual owing to the fact that we are a health resort. It seems amazing to me that the epidemic should have got a foothold in the country and I can hardly realize yet that we have made such a signal failure, in terms of preventing its spread at least, of the greatest epidemic of the last three or four decades. For all I know, it may be the greatest epidemic that has ever occurred in this country. What do you think about it?

Cordially yours,
Frederick E. Clements.

January 23, 1919.

Dear Doctor Long:

I wish to thank you for your letter of January 14th. I am still following up the matter of the influenza, both locally and nationally, in spite of the fact that it hardly seems to be the business of a botanist. Still the germs are in all probability plants, though I admit the fact reluctantly, and it is evident that some one must make it his business if certain things are to be accomplished. Clearly you physicians, who know the most about the matter in many ways are too driven by the force of the epidemic itself to do everything you would like to. My own experience indicates that we do not need to appeal to any mysterious method to explain the rapid spread of the infection. In fact, we have had no major epidemic at a time when methods of communication and actual shiftings of people were as marked as they are today. When you realize how many thousands of men have been brought from all over the world into the central vortex in Europe, and have been invalided home to the English colonies, to the French colonies and every land under the sun, it isn't at all strange that the epidemic has appeared almost miraculously at widely separated places.

One must always recognize in the advance of scientific knowledge that new things are constantly coming up, but he also realizes that the new things are practically always in conformity with the fundamental laws and principles which we understand better and better. It is for this reason that I feel confident that we haven't some cosmic dust or other necromantic method of transmission, but that actual contagion is a sufficient explanation for it all. I have been greatly interested to get the newspaper account of experiments made with the inoculation of sailors in the East. These seem to indicate that 100 men were inoculated with the bacillus of Pfeiffer and that none of them contracted the disease. This of course is absolutely opposed to all that we know about germ diseases, and simply means, if the account is true, that the technique was faulty or that this particular bacillus is not the causative germ. I am writing the Surgeon General again to see if I can get more definite information about the matter.

Meanwhile the epidemic grows steadily here, as I think it must everywhere that absolute quarantine is not enforced. I am trying to see what can be done to get the latter into effect, but apparently the business interests here are more concerned in the possible loss of a single tourist than they are in the certain loss of a score or more of their fellow citizens.

Sincerely yours,
Frederick E. Clements.

Spanish Influenza.

Dr. H. W. Saylor, Bruning, Neb.

Having read several leading medical journals in regard to the influenza, I find some difference of opinion regarding the best way of preventing and treating it. As history of the disease in this community, will say the first case I had was in a family in this village of about 400 inhabitants. This family had not been visiting or visited by anyone for several weeks. They were taken on Sept. 22nd. Four of the family had it, one coming down every day until all were in bed. The mother had complications which lasted in all three weeks. As near as I can find out those were the first cases in the county and possibly in the state. Lincoln did not report any until the following week. During this time the disease was raging in St. Louis and we figured it would be one or two weeks before it would reach us. In the meantime there were several days of east wind and from the first of October it spread rapidly over the state, missing some communities entirely, the first epidemic, but getting them later, so it shows it is carried by the air because if carried by direct contact, why did not Lincoln and Omaha become infected before the smaller towns, as they were the center of travel directly from the east. I believe the disease is of streptococcic origin mixed with the Pfeiffer germ and in some cases, of low grade pneumococcus, which becomes active when the general health is greatly weakened but can be avoided by active pneumonic treatment if begun early. The pneumonias I have had following it are not typical of the disease as the ratio between the pulse rate and temperature are not the same in all cases and the days of crisis and lysis differ greatly from lobar pneumonias.

I have had over three hundred cases of influenza since the 22nd of September, and only one death. The death was due to bronchopneumonia following. The patient was the mother of three children who, with the husband. were in bed with the disease. She, waiting on them, became much run down before contracting the disease, soon developed pneumonia and died on the tenth day.

About the 10th of November there was a lull in the epidemic here of about eight days, then started in as before with the exception that in many cases there was pulse so low as 58 and temperature of 97½. Three of them were blue and listless and seemed to suffer from shock of some kind. Those were stimulated from the start and got along very well. We closed the schools and churches and during the first epidemic for two weeks but seemed to do no good. I have in my mail today a notice of a resolution by the State Board to quarantine all cases where it exists, so far so good, but in rural districts it is a hard proposition to get women to g in and cook and look after a family of fo or five and all in bed and no nurses to be had at any price.

I delivered three women, one on the second day of the disease, the other five days before she contracted it, also one was confined in the midst of a broncho-pneumonia, all living and at full term. I have had no abortions or premature labors so far. One lady four months pregnant is getting along nicely at this writing. I have some cases of delayed menses in young girls, in others menses appeared before time.

In regard to treatment will say little. First if patient has had a chill and terrific headaches they never experienced before, put them to bed for five days no difference how mild the case is—these sometimes have the most complications. If they will not stay in bed they are flirting with the undertaker. I have had quite a number of relapses on this account, also by indiscretion in eating, etc. One man fainted twice before he realized the seriousness of it. Two ladies got up too soon and fell in front of the bed. Secon do not use aspirin or coal tar products as you will need all the heart you have during convalescence. You may use two or three grains of acelanacid or phenacetun guarded by caffeine citras. Quinine should be used in small doses, especially the hydrobromide, if fever is about 102 degrees you can give small doses of aconite and gelsemium and avoid all heart depressents in temperature below 101 degrees. All cases if seen the first eight or ten hours should have a large dose of castor oil at once. Calomel acts too slowly but can be used later and keep bowels open every twelve hours until the rotten odor and green stools disappear. Sulpho Carbolaies and especially large doses of salol act beautifully. If fever mounts to 103 or 105 degrees, use more oil and bathe fact and anus in cold water. Use Spts. Eth. Nit. for the kidneys. After fever leaves then strych, is indicated, Digitalis and Elix. C. I. O. & S.

I had contended that one attack from this epidemic gives immunity for the winter, but I believe I have two cases who have had it twice. (Would like other opinions on this).

Lastly, in summing up the situation, I claim it a form of blood poison getting into the system through the air passages and generating poisonous gases in the bowels. Lung complications are secondary, except the irritation in the throat, etc. The disease is air borne and contagious and we are all going to get it whether quarantined or not, and it being impossible to control air the disease will stop when we all have had it. In closing—I forgot to mention—there were eight cases of pneumonia, one of meningitis, a large number of hemorrhages from the nose, and six cases of discharging ears in this list of patients.

Chronic Ophthalmia: The Source of a Frequent and Serious Mistake in General Practice.

H. Gifford, M. D.

Professor of Ophthalmology, University of Nebraska, Omaha.

Probably all medical students who have been graduated in the last twenty-five years have had the danger of mistaking acute inflammatory glaucoma for iritis drummed into their ears as the great ophthalmologic crime, but so far as my information goes the danger of mistaking chronic non-inflammatory glaucoma for cataract has been comparatively neglected. Yet this is a much more frequent source of error, and although the results of the mistake are not so dramatically tragic, they are just as disastrous in the long run. In my experience the quiet type of chronic glaucoma is from five to ten times as common as the acute type, and the number of cases in which I have seen hopeless blindness result from mistaking it for cataract is correspondingly large.

The reason why this mistake is so readily made, is, that to a physician not proficient in the use of the ophthalmoscope, the available symptoms are practically the same in the incipient stages of both diseases. The patient with the quiet type of glaucoma generally has no more discomfort and no more manifest signs of disease than the one with a beginning cataract, the main subjective symptom in both cases being gradual loss of sight; and as the age at which both diseases are apt to appear is practically the same, and as the lens in persons beyond middle life not infrequently gives a fictitious appearance of opacity, when it is examined with oblique light, it is the most natural thing in the world for the family physician to tell such a patient that a cataract is beginning and that all that is necessary is for him to wait until it gets ripe or until it gets so bad that ordinary work is seriously interfered with. In this way the patient is lulled into a false sense of security, and when, later on, the oculist is visited, it is found that the chance of saving his sight is gone. Moreover, to add to the difficulties in the diagnosis, such glaucoma patients, besides presenting the appearance of lens opacity above referred to, which is due to the higher refractive index of the senile lens, not infrequently do have slight peripheral opacities just as a large proportion of people over sixty have, so that if the physician happens to have an ophthalmoscope and can use it well enough to see such opacities without going further, he is simply confirmed in the belief of the truth of his error. Meanest of all, are the not infrequent cases when the patient actually has a perfectly plain case of well-advanced cataract in one eye, **but also has chronic glaucoma.**

In addition to the patients who fall victim to this perfectly natural mistake on the part of the general physician, this form of glaucoma is one of the most dangerous fields for the mail-order oculist; and while his activities have been much curtailed by the rulings of the post office department, in former years hundreds of patients every year were actually blinded by the mydriatic drops which such quacks used to send out to the patients who wrote describing the ordinary symptoms of beginning cataract.

The first step in avoiding this serious error, is for the physician to get the idea of this danger firmly rooted in his mind; and just as he never should make the diagnosis of iritis and give the patient atropine with carefully considering whether he may not have acute glaucome; so he should never make the diagnosis of incipient cataract without giving equally serious consideration to the possible presence of chronic glaucoma. He should realize that an eye in which slight loss of sight is the only thing complained of, and which may show absolutely no sign of irritation, pain nor any other anomaly which can be detected by the examination of the anterior segment of the eye, may be the seat of a disease which if treated properly, can generally be arrested; and which if it receives no treatment, will inevitably lead to incurable blindness.

Without the use of the ophthalmoscope, the perimeter and the tonometer, a positive diagnosis of chronic glaucoma is often impossible; but if the physician will carefully test the tension and will test the outer limits of the visual field in all cases in which he suspects or actually recognizes the presence of cataract, many mistakes of the kind will be avoided.

Nitrous Oxid-Oxygen Analgesia In Obstetrics

Arthur L. Smith, A. B., M. D., Lincoln, Nebraska.

After a trial of all the methods of producing analgesia or amnesia in the mother during labor and now after using the nitrous oxid-oxygen method in 101 cases, I feel the time has come to report my results to this society. In the beginning the mistake was made of giving morphine and chloral hydrate as an adjunct, but after spending from twenty-five minutes to one hour in the resuscitation of three infants, these were discontinued. Since the dicontinuance of these drugs the babies have shown no ill effects from the nitrous oxid and oxygen method.

I have given it, or have had it given under my supervision, in the home and in the hospital, by nurses, doctors, by friends and relatives of the patients and by the patient herself, with equally good results.

The technique is about as follows:

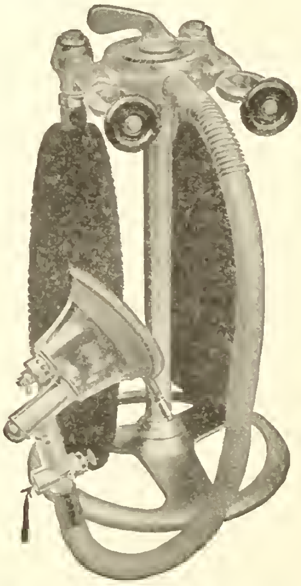
After establishing the amount necessary to produce analgesia in the patient I am ready to turn it over to any intelligent person present and after a few efforts he will need very little coaching. Of course, I am always on the alert to see that it is being given correctly and to see that the technique is followed as directed.

The apparatus is the Folding Baby Clark and can be carried about as easily as an ordinary obstetrical bag.

The method of administration is about as follows:

1. Let the mother breathe air through the mouthpiece until she loses her fear of the apparatus.
2. Give her a few breaths of the gas to show her it is not disagreeable.
3. Tell her there may be some tingling in the toes and fingers.
4. Find the number of breaths necessary to produce analgesia. (These may vary from 3 to 10).

5. Place the hand over the uterus and the beginning uterine contraction can be felt before the patient becomes aware of it.
6. The required number of breaths of nitrous oxid are inhaled before the mother feels the pain.
7. Oxygen is added as necessary to prevent any trace of noxhemia.
8. During the second stage the mother is told to "bear down".
9. This is continued until the stage of expulsion, when nitrous oxid and oxygen are given to the degree of continuous deep analgesia.
10. The placenta is delivered under intermittent analgesia.



The gas can be started at any time and from my experience can be given any length of time. I usually start it when the mother thinks it is necessary.

Of the 101 mothers to whom this has been given in Lincoln only four have said they derived no benefit from it. Six received partial analgesia and 91 total analgesia. Now this is based upon the statements of the mothers themselves. Not one of the mothers was embarrassed in the least by the administration of nitrous oxid and each one was ready to co-operate as soon as she lost her fear of the pain.

Nitrous oxid has no deliterious effect upon the infant whatever. One infant delivered at five months, on account of a placenta previa, of course died. Another at eight months in a mother suffering from eclampsia was dead before the husband consented to a forced delivery. A version and extraction was done under gas and the mother had one convulsion after delivery but recovered. One anencephalic monster with polyhydramnios was dead at birth. No normal infant has died up to the present time.

The longest time the gas has been given is six hours and thirty-five minutes with no ill effects to the mother or child.

As to the cost of the gas, I have used only one tube on the last four patients and am finding that as I become more experienced in rebreathing and in learning the exact amount for analgesia it takes less and less gas to accomplish the desired results.

The cost of the nitrous oxid is $2.80 per 100 gallon tube and the oxygen is $2.15 per 65 gallon tube. As far as I know I am the only one who has given it in Lincoln in obstetrical cases.

Now, it is true, this method takes a great deal of the obstetrician's time, for he must be present throughout the period of analgesia, that it takes his time from other work, that it is nerve-racking and energy-consuming, that the cost is more than that of the anesthetics usually used, but I believe it is far better than letting the poor mother yell until the last and then giving her chloroform or ether. And again when the people learn that the ordinary fee paid will not cover the expense of this method, obstetricians can afford to give the time necessary in producing analgesia with nitrous oxid-oxygen.

The advantages are:

It is easy to give and pleasant to take.

It may be started during any stage of labor and discontinued instantly at any time.

It can be given any length of time.

It is devoid of danger to mother or child.

After the first few breaths the patient loses her fear of the pains and co-operates heartily.

It is best in highly nervous primiparae.

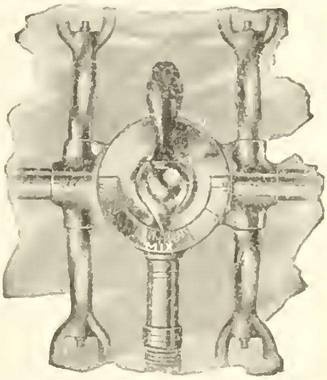
Mother is not exhausted after labor.

Mother is never unconscious.

It shortens labor, as much as twenty-five per cent.

There is nothing complicated about its administration and the technique can soon be learned.

It can be given in the home as well as in the hospital.



In another paper (1) I have shown that morphine (and its derivatives) and scopolamin are first stage drugs; ether and chloroform are used only in the latter part of the second stage; and nitrous oxid-oxygen, which is the least dangerous, can be given in all stages and that morphine and scopolamin, ether and chloroform are not only more dangerous, but increase the time of labor, while nitrous oxid-oxygen decreases the time of labor through the co-operation of the mother. Therefore, it seems to me the nitrous oxid-oxygen method of producing painless labor, while not ideal, is the best we have at the present time.

Its success depends upon attention to details and upon the sympathy of the obstetrician for the suffering mother and his willingness to be present throughout the labor. I, therefore, believe it results in better obstetrics and I believe that all will agree there is a great chance for improvement in this branch of medicine.

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Selected Reading.

The wise selection of medical Journals for profitable reading is a subject of major importance to all, but especially to the younger members in our profession. Because the financial resources of the beginner in practice are usually limited, the tendency to buy "dollar a year" journals is strong. Accepting the adage that our habits of study—in post-college days—are quite definitely fixed during the first three to five years of our independent professional work the necessity of starting right, is obvious.

The reading and study of one standard journal covering the field of medicine and surgery will afford more valuable medical instruction in one year, than three cheap journals offer in treble that period. Reading cheap journals tends to establish a satisfaction in domestic medicine, to the exclusion of a desire to read and study scientific medicine. The former class of literature engenders laziness in mental discipline; the latter stimulates intellectual activity, and creates a desire for more knowledge that a better service may be rendered. The habit of studying something above the ability of the student to fully understand, is productive of intellectual growth and the acquisition of practical knowledge. Thanks to our astute leaders in medicine, aided by modern printing facilities, the best of medical literature is easily accessible to beginners as students in college or later to procure properly selected publications for our education in any department of practice. Our A. M. A. Journal, so ably presenting general medicine, has added to its manifold work by publishing special journals, namely: Archives of Internal Medicine, American Journal of Diseases of Children, and Archives of Neurology and Psychiatry, each ably edited by some of the best men in our profession. The editors of these journals sift the literature of medical progress and publish only authenticated statements, for our perusal. He who really desires to read good literature on medical problems will evidence wisdom in possessing one or more of these publications for handy reference in his medical library.

Our State Association rightfully claims the well written productions that are carefully prepared by discriminate clinicians and experienced laboratory men in their respective departments of work, for printing in our official Journal. Our membership is the source of our supply.

Good Business Judgment.

Our members are asked to read on advertising page 16 the list of state and national advertising patrons who favor us. Naturally we recommend only such firms as will make good their claims for quality and price, in the merchandise they guarantee. Consult them before placing your orders. Don't give your business to houses whose suave agents and trade journal ads would beguile, yet whose goods are not acceptable to the censorship of the Council on Pharmacy and Chemistry of our American Medical Association or Censor Committee of our State Medical Association, or being accepted refuse to pay for space on our advertising pages. Quality and price considered our patrons are reliable men with whom we can do satisfactory business.

Archives of Neurology and Psychiatry, Vol. 1, No. 1, a monthly publication by the American Medical Association, is a merited recognition of that department of medicine. The work done by men skilled in nervous and mental diseases, who have made possible and maintained the American Neurological Association and supported the Section on Nervous and Mental Disease in our A. M. A. are now enabled to present their work through an official Journal, edited by some of our best members. The launching of this publication now is opportune because the world war has supplied an immense fund of knowledge on neurological and mental problems, that can through its columns reach the medical reader in better form than is possible in journals on general medicine and surgery.

Minutes of the Meeting of the Councilors and Board of Trustees of the Nebraska State Medical Association, Thursday Evening, Jan. 23, 1919.

Meeting called to order at 7:45 at the Omaha Athletic Club by retiring Chairman, H. J. Lehnhoff.

The following Councilors were present: Lehnhoff, Fouts, Cook, Tornholm, Potter, Sanders and Overgaard; and the President of the Nebraska State Medical Association, J. M. Banister, Secretary J. M. Aikin, and Librarian W. P. Wherry.

First order of business was election of a permanent Chairman. Sanders moved that H. J. Lehnhoff be our chairman for 1919, which was seconded by Fouts, being no further nominations, the motion was put and carried and Lehnhoff was declared chairman for 1919.

Cook moved that A. P. Overgaard be elected Secretary for 1919, which was seconded by Sanders. With no further nominations the motion was put and carried.

Secretary J. M. Aikin made his annual report as follows:

Report of the Secretary of the Nebraska State Medical Association for 1918.

On Dec. 31, 1917, we had 1138 members, who paid as

Dues Current	$2,276.00
Dues arrears	8.00
Defense Fund Current	1,138.00
Defense Fund Arrears	4.00
Total amount sent to Treasurer	$3,426.00

On Dec. 31, 1918, we had 1139 members, who paid as

Dues Current	$3,417.00
Defense Fund Current	1,139.00
Total amount sent to Treasurer	$4,556.00

On the termination of the Treasurer's office and combining his duties with the work of your Secretary as Secretary-Treasurer, your Treasurer transferred as of Jan. 1, 1919, from his office to your Secretary-Treasurer to

The General Fund	$1,087.11
The Defense Fund	1,470.36
Total on Jan. 1, 1919	$2,557.47

Your Secretary-Treasurer deposited all of said money in two funds designated General Fund and Defense Fund, in the Omaha National Bank to the Nebraska State Medical Association. The General Fund received all money collected as dues from members. The Defense Fund receives from the General Fund the sum of $1.00 per member per year, set aside as a special defense fund, as per Chapter X, Section 6, of our Constitution and By-Laws, to be used only for Medico-Legal Defense purposes.

With all 1918 bills paid we begin 1919 with cash in bank:

In General Fund	$1,087.11
In Defense Fund	1,470.36
Total to General and Defense Funds	$2,557.47

The Journal Fund is wholly separate from above two funds and is kept in the First National Bank of Omaha, as Journal Fund. All money received as income from advertising and subscribers not members, together with $1.50 per member per year taken out of the General Fund is placed in it to the Nebraska State Medical Journal credit.

On Jan. 1, 1918, our cash in bank was		$706.81	
Rec. during 1918	$4,854.22		
Exp. during 1918	4,539.75		
Surplus for 1918		314.47	
Balance in bank to Journal Fund Jan. 1, 1919			$1,021.28
Balance in bank to General and Defense Funds Jan. 1, 1919			2,557.47
Total Cash in bank to all funds Jan. 1, 1919			$3,578.75

Cook motioned that the report as read be accepted; seconded by Potter; carried.

Treasurer A. S. v Mansfelde's report was read by J. M. Aikin as follows:

Your outgoing Treasurer has the honor to report:

For General Fund.

On hand as balance Jan. 1, 1919	$ 457.88
Received from Secretary, dues for 1139 members	3,417.00
All money received during 1918	$3,874.88
All moneys paid out on vouchers Nos. 293 to 313 duly signed by President and Secretary	$2,787.77

Balance on hand Dec. 31, 1918 $1,087.11

This report is accompanied by my check No. 1138, Jan. 13, 1919, to the order of J. M. Aikin, Secretary-Treasurer for above named $1,087.11.

For Defense Fund.

On hand as balance Jan. 1, 1918		$1,614.69
Received from Secretary, dues for 1139 members		$1,139.00
All moneys received during 1918		$2,753.69
All moneys paid out on vouchers Nos. 28 to 32 duly signed by President and Secretary	$783.33	
Paid to chairman Medico-Legal Defense Committee Salary 1919	300.00	
Defense Committee Expense for 1919	200.00	1,283.33
Balance on hand Dec. 31, 1918		$1,470.36

This report is accompanied by my check No. 1169, Jan. 13th, 1919, to the order of J. M. Aikin, Secretary-Treasurer for above named balance $1,470.36.

Elected to the office of the Treasurer May 4th, 1905, serving thirteen years and eight months, an honor certainly; nevertheless I relinquish the office gladly to my successor with all its responsibilities, labors and honors.

Respectfully submitted,
A. S. v Mansfelde.

Fouts moved that the Secretary of the Board of Trustees communicate with the late Treasurer A. S. v Mansfelde, referring him to Sections 2 and 4 of Chapter 10, Constitution and By-Laws with the request that he turn over all funds of the Nebraska State Medical Association now in his possession; seconded by Cook; carried.

Potter moved that the funds of the Association be deposited in the Omaha National Bank to the credit of the Nebraska State Medical Association in two separate funds, designated as the General Fund and the Defense Fund; that the Journal Fund be deposited in the First National Bank of Omaha to the credit of the Nebraska State Medical Journal and that all bills be paid by voucher checks out of these funds; seconded by Fouts and carried.

Cook moved that the Secretary to the Trustees be instructed to have an expert accountant audit the books of the Nebraska State Medical Association for 1918; seconded by Potter; carried.

The meeting then adjourned.

H. J. Lehnhoff, Chairman.
A. P. Overgaard, Secretary.

STATE NOTES.

Dr. A. D. Nesbit and wife of Tekamah, are spending the winter in California.

Dr. J. C. Moore and wife of Omaha, have gone to their Florida home, 710 Tenth street, Miami, Florida, for the winter.

Dr. C. H. Swift, of Crofton, is spending the winter in New Orleans, La.

Dr. Clifford W. Waldon has been appointed city physician of Beatrice, to succeed Dr. G. L. Roe, who has resigned.

A movement has been inaugurated at Kearney for the erection of a large hospital, the building to cost about $100,000. It is understood that there is already $50,000 for the project.

Work is progressing rapidly on the new Lutheran Hospital, Beatrice. It is believed the building will be ready for occupancy by June. When completed the hospital will be able to care for 100 patients.

Dr. and Mrs. F. A. Long of Madison are spending the month of February in Texas visiting their daughter who has been doing War Library work here and sails February 15 to continue that work overseas. They will visit in Tucson, Ariz., with another daughter who is doing botanical work there.

COUNTY SOCIETY NOTES.

Secretary-treasurer S. M. Baker of the Harlan County Medical Society sent in check to cover dues of eight members of that county for 1919.

J. L. Bennett, secretary-treasurer of the Buffalo County Medical Society, has to date sent in dues for fourteen members for 1919.

The 1919 officers of the Burt County Medical Society are I. Lukens, president; Herbert Cooper, vice president; W. C. Keettel, secretary-treasurer. They have thirteen members paid up for the current year.

The 1919 officers of the Howard County Medical Society are P. M. Pedersen, president; Adolph H. Holm, secretary-treasurer. They have five members paid up for the current year.

The Nemaha County Medical Society officers for 1919 are B. F. Lorance, president; V. M. Boal, vice president; I. W. Irvin, secretary-treasurer. They have sixteen members paid up for 1919.

The 1919 officers of the Jefferson County Medical Society are R. W. Murray, president; S. W. Dodge, vice president; and H. E. Potter, secretary-treasurer. They have eleven members paid up for 1919.

The 1919 officers of the Polk County Medical Society are J. C. Malster, president; L. Roy Leibee, vice president; L. M. Shaw, secretary-treasurer. They have nine members paid up for the current year.

The 1919 officers of the Gage County Medical society are A. Lee, president; J. I. McGirr, vice president; H. R. Brown, secretary-treasurer. They have twenty-nine members paid up for the year 1919.

The 1919 officers of the Cuming County Medical Society are H. S. Summers, president; I. L. Thompson, vice president; F. J. Kotlar, secretary-treasurer. They have ten members paid up for the year 1919.

The 1919 officers of the Phelps County Medical Society are W. A. Shreck, president; S. F. Sanders, vice president; P. A. Sundbury, secretary-treasurer. They have seven members paid up for the current year.

The 1919 officers of the Pierce County Medical Society are L. A. Johnson, president; Frank G. Salter, vice president; F. H. Nye, secretary-treasurer. They have eight members paid up for the current year.

The officers of the Hall County Medical Society for 1919 are R. C. Woodruff, president; E. A. Watson, vice president; J. E. Higgins, secretary-treasurer. Twenty members of the above county have paid their current dues.

The 1919 officers of the Washington County Medical Society are J. V. Hinchman, president; E. S. B. Geesaman, vice president; G. A. Langstaff, secretary-treasurer. They have ten members paid up for the current year.

The officers of the Thayer County Medical Society for 1919 are A. Herney, president; H. H. Stretton, vice president; U. H. Squires, secretary-treasurer. Twelve members of the above county have paid their current dues.

The officers of the Cass County Medical Society for 1919 are J. M. Neely, president; T. P. Livingston, vice president; N. D. Talcott, secretary-treasurer. Ten members of the above county have paid their current dues.

The officers of the Boyd County Medical Society for 1919 are J. R. Beatty, president; E. R. Seasongood, vice president, and R. C. Hawkins, secretary-treasurer. Five members of the above county have paid their current dues.

The officers of the Custer County Medical Society for 1919 are G. E. Pennington, president; W. T. Hurst, vice president; C. L. Mullins, secretary-treasurer. Fourteen members of the above county have paid their current dues.

The 1919 officers of the Johnson County Medical Society for 1919 are C. H. Zeigler, president; C. D. Barnes and C. H. Davies, vice presidents; T. E. Fairall, secretary-treasurer. Thirteen members of the above county have paid their current dues.

The 1919 officers of the Adams County Medical Society are S. J. Jones, president; W. T. Carson, vice president; F. C. Dean, secretary-treasurer. Up to date they have thirty-one members paid up for 1919.

DEATHS.

Joseph Alphonse Furlong, Lieut. M. C. U. S. Army, Springview, Neb.; St. Louis University, 1912; aged 29; on duty with the American Expeditionary Forces in France; while returning from leave spent in Ireland, was killed off Kingstown, Ireland, by the torpedoing of the steamship Leinster, October 10.

MARRIAGES.

Harry J. Arnold to Miss Martha Bean, both of Columbus, Neb., January 11.

ORDERS TO NEBRASKA OFFICERS OF THE MEDICAL CORPS, U. S. ARMY.

January 11.

To Camp Dodge, Iowa, base hospital, from New Haven, Lieut. A. L. Barr, Omaha.

To Cape May, N. J., from New Haven, Capt. E. H. McLean, Omaha.

To Fort Worden, Wash., from Fort Riley, Lieut. I. H. Levin, Venango.

January 18.

To Camp Dix, N. J., from Camp Zachary Taylor, Capt. W. E. M. Devers, Cowles.

To Camp Polk, N. C., from Camp Wadsworth, Capt. E. M. Barnes, Omaha.

To Denver, Colo., from Camp MacArthur, Capt. L. S B. Robinson, Lincoln.

To Fort Des Moines and Camp Dodge, Iowa, base hospitals, from Newport News, Lieut. W. E. Wolcott, Omaha.

To Riverside, Calif., March Field, from Berkeley, Lieut. J. R. Kleyla, Omaha.

January 25.

To Camp Lewis, Wash., from Camp Jackson, Major E. S. Tenney, Lincoln; from Fort Riley, Major A. E. Westervelt, Craig.

To Fort Des Moines, Iowa, from Camp Zachary Taylor, Lieut. L. K. Strate, Hastings.

To Fort Snelling, Minn., from Camp Dodge, Lieut. R. L. Ivins, Crawford.

NEBRASKA MEDICAL OFFICERS HONORABLY DISCHARGED.

January 11.

Capt. I. W. Haughey, Aurora; Lieut. E. E. Sweeney, Filley; Capt. F. P. Dorsey, Hartington; Lieut. J. E. Ingram, Harvard; Lieut. H. A. Rosenbaum, Harvard; Lieut. G. J. Kadavy, Omaha; Capt. L. Riley, Wisner.

January 18.

Lieut. W. H. Riley, Aurora; Capt. R. H. Burrell, Creighton; Capt. R. G. Rich, David City; Lieut. F. B Patterson, Dodge; Capt. G. E. Williams Havelock; Lieut. C. Emerson, Lincoln; Lieut. H. D. Lurvey, Omaha; Capt. W. R. McGrew, Omaha; Capt. J. E. Simpson, Omaha; Lieut. J. R. Leibee, Polk; Capt. E. A. Creighton, Red Cloud; Lieut. J. W. Stockman, Red Cloud; Lieut. R. H. Morse, Wisner.

January 25.

Lieut. A. A. Tyrrell, Beatrice; Capt. E. E. Boyd, Central City; Lieut. M. Ryan, Danbury; Lieut. R. R. Craft, Exeter; Capt. J. P. Feese, Franklin; Capt. E. C. Stevenson, Gothenburg; Capt. W. T. Carson, Hastings; Capt. A. J. Cameron, Herman; Lieut. C. E. Kidder, Holstein; Lieut. J. M. Packer, Memphis; Lieut. R. S. Johnston, Omaha; Lieut. W. J. McCrann, Omaha; Lieut. L. D. McGuire, Omaha; Lieut. J. P. Swoboda. Omaha; Lieut. G. Buol, Ravenna; Lieut. J. N. Stoops, Scottsbluff; Lieut. W. E. Lamb, Sprague; Lieut. J. C. Newman, Wallace.

Congenital Pyloric Stenosis.

A. A. Straus, Chicago, Ill.

Abstract J. A. M. A., Sept. 7, 1918.

Congenital pyloric stenosis at one time treated conservatively has finally arrived at a surgical interference as the only method of relief. It is evident that these cases treated successfully by lavage, etc., were purely cases of pyloro- or duodeno-spasm. The mortality was high with gastro-enterostomy and the technic difficult owing to the jejunum being about the size of a lead pencil. A. A. Straus of Chicago has just reported a clinical study of 101 cases, 65 surgically treated and 35 medically. Straus has devised an operation whereby the hypertrophied pylorus is divided and dissected away from the mucosa, allowing the latter to unfold. The pylorus is then split at right angles to its length, obtaining flaps which cover the dilated mucous layer thereby approaching a condition close to normal. It differs from the Rammstedt as the latter simply divides the hypertrophied layer down to the mucosa leaving a gaping wound uncovered down to the inner lining of the pylorus. The Rammstedt is by far the most simple but Straus claims his method can be performed in fifteen minutes, does away with a possible leak and builds up a pylorus closely simulating the normal. His mortality of 4% compares very favorably with the Rammstedt with which Downes reports as 25%, while gastro-enterostomy claimed 50%.

C. A. R.

Enterostomy and Enter-Colostomy.

Abstract J. A. M. A., Sept. 7, 1918.

The very high mortality of acute intestional obstruction (75%) warrants the keenest scrutiny of any new method for it's relief. We have been confronted with the difficulty of (1) early diagnosis at which time treatment should give almost 100% cures, (2) a method of cure when diagnosis is made. Brooke M. Anspach of Philadelphia in an article placed first in the J. A. M. A., September 7, 1918, describes enterostomy and enterocolostomy, methods par excellence for obstructions following operations in the lower abdomen. He mentions, what we have all recognized as necessary factors in preventing obstruction following pelvic operations, the following, viz, (1) careful peritonealization, (2) closure of all adventitious openings, (3) aseptic technic, (4) avoidance of trauma, (5) judicious care in handling drainage and (6) the avoidance of active catharsis following the operation. Pelvic drains become a source of danger unwisely used, causing obstructive adhesions.

The majority of cases of post-operative obstruction are twenty-four to forty-eight hours old before operation is undertaken which places the patient in a critical condition. When fortunate enough to meet an early case, the mere separation of adhesions, division of bands, etc., suffices to relieve. In later cases there is always some constriction and infiltration at the obstructed point with distention and inflammatory changes in the intestional wall. By this time an intestional toxemia and peritonitis often complicates the picture. He mentions the various accepted theories, viz, (1) Draper's aberrant activity of the duodenal epithelium and probable pancreatic cells when obstruction is high in the small intestine and bacterial action when lower, (2) Hartwell's and Hoquet's absorption of toxins from a damaged mucosa.

The operative measure he insists upon is intestinal drainage which has been recognized from early days of surgery. Enterostomy a life-saving event leaves the patient in a condition for a second operation to be restored to normal. He advocates strongly an anastomosis of the dilated portion of the small gut just above the obstruction to the large gut preferably the descending colon or the sigmoid, as just as effective as external drainage, citing clinical results.

Unfortunately the author has failed to consult or give credit to the literature and had he done so there would have been quoted an article by Cheever (Boston Medical and Surgical Journal, May 15, 1913), who first called attention to this condition of obstruction of the terminal ileum, by mechanical or infective adhesions, as a distinct clinical entity. Cheever advocated an enterostomy for its relief. Another article by C. A. Roeder (Boston Medical and Surgical Journal, August 28, 1913), crediting Cheever with his priority, in which three cases were reported all cured by an anastomosis of the obstructed ileum to the sigmoid with a Murphy button. W. Sampson Handley in the British Medical Journal, October, 1915, describes an obstruction of the terminal ileum from infection in the pelvis which not only obstructed the ileum but also the sigmoid, terming this "Ileus Duplex." He recommends ileo-colostomy, if it is possible below the point of obstruction in the sigmoid, and if not, an ileo-colostomy plus cecostomy.

These three original observers first brought forth the condition as a frequent clinical entity elaborated its technic which we are also pleased to note has been reported as a successful method five years later by B. M. Anspach of Philadelphia.

C. A. R.

Abstract From J. A. M. A.

October 12, 1918.

The great impetus given to orthopedic surgery following this war will advance this branch of surgery no faster than the study of bones, joints, muscles, tendons and nerves in the normal individual. The tendon has seemed so simple in construction that very few investigators have studied it in its normal condition and operators have handled it indiscriminately with results far from satisfactory. Transplanting a tendon into a new era without a nonadhering covering results in obstructing adhesions, while transplanting it through a channel of fat, fascia or vessel generally gives only fair results. Lea Mayer further describes the anatomy of the peri tendinous structures including the tendon, its sheath and a soft elastic tissue called the paratenon, which with the sheath allows the gliding motion of the tendon. The only way to simulate nature at present is to transplant the tendon through a sheath which has been evacuated by a functionless one. The operator is not always fortunate enough to obtain an empty sheath in line with the direction of his transplant but should make the greatest effort to find one even if the line of tension is not directly paralleled to the tension desired.

C. A. R.

Abstract From J. A. M. A.

October 12, 1918.

The gall-bladder enjoys the distinction of causing more pathologic symptoms with the least trace of pathology within itself than any other organ in the body. With such a reputation it is no wonder gall-bladders were overlooked in the past and the surgeon today defends his plea for almost universal cholecystectomy on the grounds that his procedure eliminates all doubt. The diseased gall-bladder has been placed upon the same plane as the appendix and should be removed, with proper indications, whenever possible without increasing the relative increase in mortality over the operation of drainage. No procedure in surgery requires more surgical judgment than deciding as to whether or not the organ should be removed in many instances, as its appearance is often the most innocent when it is the cause of diverse pathologic symptoms.

As after all relatively or absolutely new procedures in surgery the aftermath brings forth complications which in some instances, leave the patient in a worse condition than before and the most dreaded accident is injury to the hepatic or common ducts. In the past two years such reports are appearing regularly, an example of which is an article by J. Shelton Horsley who describes such misfortunes and gives a resume of the pioneers in the repair of biliary ducts. The article serves as an additional warning to operators both great and small that the hepatic and common ducts owing to anomalous positions and deep situations are easily injured, with repairs that are extremely difficult and discouraging.

The work of Eisendrath of Chicago on the surgical anatomy of the biliary passages is worth any surgeon's perusal. For successful surgery in this region the surgeon should know his anatomy, should know the pathologic physiology present, should possess good surgical judgment, a gentle technic, have ample exposure and a good light as well as good eyesight.

C. A. R.

New and Nonofficial Remedies.

Chlorcosane, Squibb—It complies with the standards for chlorcosane, N. N. R. Chlorcosane is a liquid, chlorinated paraffin containing its chlorine in stable (non-active) combination. It is used as a solvent for dichloramine-T and is itself without therapeutic action. E. R. Squibb and Sons, New York.

Thromboplastin Solution, Armour—An extract of cattle brain in physiological sodium chloride solution prepared according to the method of Hess. It complies with the description of Solution Brain Extract, N. N. R. As a hemostatic, the solution is applied directly to bleeding tissues or applied by means of a spray or tampon. See New and Nonofficial Remedies, 1918, p 136 under "Fibrin Ferments and Thromboplastic Substances" (Kephalin). Armour and Co., Chicago.

Corpus Luteum Capsules, 2 Grains—Each capsule contains 2 grains of corpus luteum—Armour (see New and Nonofficial Remedies, 1918, p 237). Armour and Co., Chicago.

Salipyrine Tablets, 7½ Grains—Each tablet contains 7.5 grains of salipyrine (see New and Nonofficial Remedies, 1918, p 275). Riedel and Co., New York.

Antipneumococcus Serum Type I, Gilliland—It is marketed in vials containing 50 Cc. The Gilliland Laboratories, Ambler, Pa.

Phenylcinchoninic Acid, Abbott—A brand of phenylchinchoninic acid, U. S. P. (see New and Nonofficial Remedies, 1918, p 269). The Abbott Laboratories, Chicago.

Parresined Lace—Mesh Surgical Dressing—Net mesh gauze impregnated with and containing from 45 to 50 per cent of parresine (see New and Nonofficial Remedies, 1918, p 247). The Abbott Laboratories, Chicago.

Halazone, Squibb.—A brand of halazone complying with the standards for halazone, N. N. R. It is marketed only in the form of Tablets Halazone-Squibb 1-16 grain, each containing halazone-Squibb, 1-16 grain, anhydrous sodium carbonate, 1-16 grain, and sodium chloride, 1⅜ grains. Halazone tablets are used for the sterilization of drinking water one to two tablets being added to one quart of water. E. R. Squibb and Sons, New York (Jour. A. M. A., Sept. 28, 1918, p 1059).

Solargentum-Squibb.—A compound of silver and gelatin containing from 19 to 23 per cent of silver in colloidal form. It is used in solutions containing from 1 to 25 per cent or more. It is also used in the form of bougies or suppositories. No precipitate is produced when sodium chlorid or albumin solutions are added to solutions of solargentum-Squibb. E. R. Squibb and Sons, New York (Jour. A. M. A., Oct. 12, 1918, p 1219).

Benzyl Alcohol—Phenmethylol.—An aromatic alcohol occurring as an ester in tolu and other balsams, and produced synthetically. It is being used as a local anesthetic by injection and by application to mucous membrane. It is said to be practically nonirritant and nontoxic in the ordinary concentration and dosage. From 1 to 4 per cent solutions in physiological sodium chloride solution are commonly used for injection anesthesia.

Phenmethylol.—A nonproprietary brand of benzyl alcohol complying with the tests and standards for benzyl alcohol. Hnyson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 1 per cent.—H. W. and D.—Each ampule contains 5 Cc. of a sterile solution of phenmethylol H. W. and D. 1 Gm. in physiological sodium chloride solution 99 Gm. Hynson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 2 per cent.—H. W. and D.—Each ampule contains 5 Cc. of a 2 per cent solution of phenmethylol H. W. and D. in physiological sodium chloride solution. Hynson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 4 per cent.—H. W. and D.—Each ampule contains 5 Cc. of a 4 per cent solution of phenmethylol H. W. and D. in physiological sodium chloride solution. Hynson, Westcott and Dunning, Baltimore, Md. (Jour. A. M. A., Oct. 19, 1918, p 1313).

Pneumococcus Antigen (Rosenow), Lilly.—A pneumococcus vaccine prepared by digesting a suspension of pneumococci until the bacteria are partially autolyzed. E. C. Rosenow believes that the protective power of this vaccine is greater than that of one prepared in the usual way. It is marketed in 5 Cc. vials, each Cc. containing 20 million partially autolyzed pneumococci. Eli Lilly and Co., Indianapolis (Jour. A. M. A., Oct. 26, 1918, p 1407).

Chloramine-T, Monsanto.—A brand of chloramine-T which complies with the New and Nonofficial Remedies standards. The properties, actions, uses and dosage are described in New and Nonofficial Remedies, 1918, p 156. Monsanto Chemical Works, St. Louis, Mo.

Chlorinated Eucalyptol, Squibb.—Eucalyptol chlorinated at room temperature. It is used as a solvent for dichloramine-T in the treatment of infected wounds, etc. The solution should preferably be made as required. E. R. Squibb and Sons, New York.

Arsaminol.—A brand of arsphenamine which complies with the New and Nonofficial Remedies standards. Arsaminol is supplied in sealed tubes containing, respectively, 0.1 Gm., 0.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm. and 0.6 Gm. Takamine Laboratory Inc., New York (Jour. A. M. A., Jan. 18, 1919, p. 193).

Digitan.—A digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standardized biologically. Digitan was first introduced as digipuratum and is made under the digipuratum patent by license of the U. S. Federal Trade Commission. The actions, uses and dosage of digitan is the same as those of digitalis. It is sold in the form of a powder and as digitan tablets 1½ grains. Merck and Col, New York.

Neoarsenobenzol (Dermatological Research Laboratories).—A brand of neoarsphenamine complying with the New and Nonofficial Remedies standards. It is marketed in tubes containing, respectively, 0.1 Gm., 0.3 Gm., 0.45 Gm., 0.6 Gm., 0.75 Gm., and 0.9 Gm. Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia (Jour. A. M. A., Jan. 25, 1919, p 275).

ate Library.
DR. C. E. HICKMAN.

THE NEBRASKA STATE MEDICAL JOURNAL

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NEXT ANNUAL SESSION, LINCOLN, MAY 19, 20, 21, 1919.

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A Bureau of Ethics and Standardization for the Medical Profession of Nebraska.

C. A. Roeder, M. D., F. A. C. S., Omaha.

In spite of the benefits which are supposed to have come to mankind from this great war, the predominating psychologic aspect of man today in all strata, is a keen struggle to advance financially at the expense of his fellow man. Money more than ever will play a tremendous part in his new relations and the struggle for trade will be greater than ever. The lowest type, the Marxian socialist (bolsheviki) will use brute force; while the highest type, the man of letters and medicine, must sit still until the various classes decide what they intend to do with themselves and all others. Through the advance of science individualism has passed forever and proper co-operation in all strata, which is a high and scientific form of socialism, has come to stay. Our supplies of food, water, clothing, as well as all sources of comfort and advancement, are all going under the ban of greater organization. If our government adopts a Bureau of Health the day will soon be here when we will not be the dictators of our destinies, but we will be governed by a central force composed of politicians knowing nothing about medicine.

It is a very serious matter when we have to suddenly scurry around to watch our interests at Lincoln every time the legislators meet. The constant effort of the ineligible to obtain laws favorable to themselves and detrimental to us, by way of cunning inducements through the ignorance of our untrained lawmakers, is a continuous struggle at the capitol. It is foolhardy to expect a busy and politically untrained practitioner to suddenly fly to Lincoln and try to counteract successfully year after year the inroads of the various illiterate tribes who seek to obtain the same privileges as we rightly possess; which possession is due to our most sincere efforts to place such privileges upon a plane of high standardization; and for the benefit of the very class who blindly allow inferior substitutes. New privileges and laws are worked upon quietly by such aspiring and undeserving classes, for a long time before bringing them openly before the public, and various inducements through shrewd politics have been offered long before the medical profession have any idea of what is coming. Therefore we need political representation constantly and effectively.

Another great menace coming over the horizon is radical socialism in one form or another which considers medical men as a favored class and seeks to level all classes by brute force; and if that's not successful, to pass laws doing away with proper classification and justice to mankind, representing the lowest form of autocracy. When labor as a whole is organized for politics Mr. Gompers will become the most powerful individual in existence and such an organization naturally will buy medicine where it can obtain it the cheapest. Medicine is rapidly enough drifting into commercialism through its own lack of organization, and to be plunged into this precipitately and governed by the laboring and unscientific class will necessitate a change of vocation for most of us.

Now with a Bureau of Health as a probability, governed by politicians; a state legislature absolutely ignorant of medical science and possibly of all others; and radical socialism pounding at the door, we are confronted with the most serious problems the medical profession has ever had to combat. It concerns the younger men more as these changes will take a few years to become effective, so that we who represent the coming generation must build up some guiding and protective force if we want to enjoy the privileges the older men at present and in the past have possessed, and which are necessary for the advance of medicine.

We are the most unorganized body of men on earth today, all due to "ego;" the desire to practice as we individually please as well as inefficiently. Our nurses, who represent our very able assistants, are trained by the time they receive their diplomas and have given ample demonstrations before receiving their license to practice in a limited sense. The medical man is only educated and not too well at that. He is not trained when he graduates and with his diploma, signifying efficiency, he is entitled to practice in the greatest field of mental endeavor, viz., "Physician and Surgeon." With the utmost respect to those who display it, owing to present necessities, such a sign will be a curiosity fifty years from today. Even the plasterers' union requires a man to train seven years at the work he professes to follow before issuing him a little card signifying that he is a member of that organization, and that he practices efficiently what he professes.

I do not think we should form a union based on finances only, but I do think we should be brought closer together for the increase of our own efficiency, and for a protection to ourselves from evils without as well as within our ranks. We must display plainly for public inspection a standard of efficiency, as the public has no idea of what medical men are actually proficient, because they have nothing to go by excepting the newspapers. We have a few standards tucked away down deep in some pamphlets on by-laws and wave them frantically at times, but who pays any attention to them. We know they were adopted as laws but who is to enforce them. The medical parade with standards waving is a most ludicrous stream of men when it comes to teamwork and organization.

With the varying attitudes and susceptibilities of mankind and with no central force around which to circulate, we naturally commit blunders, stumbling blocks to progress and mostly caused by individualism. When one stops to think, our progress is startlingly slow compared to any of the labor unions. Nature will allow nothing but a survival of the fittest, and it is now time for us to do away with the old motto of "survival of the shrewdest." Our attempt to send scientific medicine out alone with no advance agents such as proper politics and with no backing such as cooperation, spells disaster and misplaced energy. Please note "proper politics" which is based on honesty and efficiency. Political medicine alone, scientific medicine alone and cooperative medicine alone can never make the progress expected of them and never will until combined. The socalled committees appointed in the past for various corrections needed in our profession, possessed so much fear that their efforts toward honesty and frankness were too far outshadowed. They plainly demonstrated that the average committee for legislation and correction is hopeless.

Let us form a Bureau of Ethics or Standardization, made up by us, governed by us and for the benefit of us; where all friction among ourselves and attacks or undermining from without can be handled efficiently and effectively; where rigid standards can be formed and enforced; where proper political power can be developed and used. This Bureau would represent us in all forms of publicity (press and otherwise) and would be a place where anybody could go and find out all they wanted to know about the profession. This Bureau should be so conducted that honesty and frankness and publicity should be its motto, which would represent fearlessness.

Absolutely nothing but benefit can come from this. Who can openly object excepting those who, owing to the uncertainties of nature and of their own knowledge, desire to practice biologic psychology (medicine) secretly, as the average patient is far more susceptible to the mysterious. Ego again predominates here with both doctor and patient, a characteristic well sacrificed to the benefit of all parties concerned. We want less private (individual) practice and more public (cooperative) practice.

The upheaval has been so great that political parties such as republicans and democrats have been wiped out, and during this tremendous struggle of the survival of the fittest let us make an effort toward placing the medical profession where it belongs. I have conversed with many concerning this plan and every honest man endorses it, but few desire to act. The ease of those indifferent I'm sure is only imaginary and the coming reaction will be at least unpleasant.

After considerable thought, conversation with and advice from others, I think such a bureau should be a subdivision and a part of the State Association. It should be composed of one member of the Association from each district and a lawyer beyond reproach who possesses the courage of his and our convictions; who should be paid an ample sum for real services, say, three thousand dollars or more a year. This Bureau, with no responsibilities outside the profession and with the endorsement of every man in the State Association, would represent no mean force to bring about better relations among ourselves and between the medical profession and the layman. The functions of the Bureau should be (1) to promote proper and efficient political representation whenever and wherever needed, (2) to protect the profession either singly or collectively from any aggression or attacks from outside or within its ranks, (3) to represent a court of justice for doing away with friction among members, (4) to so standardize practice that the public and profession can readily recognize honest and dishonest methods, (5) to promote a proper representation of the profession to the public press and to pass on all medical articles first before appearing in the public press, (6) to standardize hospitals and to inspect them biannually, (7) to prosecute outside offenders and to possess complete power to admit and expel all members of the Association, (8) to control absolutely the State Board of Health as the medical man is the only suitable person for such a position. A small sum of ten dollars per year per member would not be missed by any member and the benefits received would make the dues infinitesimal compared to the receipts. The average laboring man contributes one dollar per month for such protection, so we could at least afford that sum.

Treatment of Empyema by the Closed Method

Clarence Emerson, B. Sc., Ph. D., M. D., Lincoln.

The advances in chest surgery during the period of the war have been along two widely divergent lines. On the one hand there has been forsaken the customary temerity at handling lung tissue itself and of making wide open chest incisions and in its stead there is great tendency to make large openings and excise portions of the lung if necessary. In contrast to this there has been evolved the "closed method" of treating empyema and related chest abscesses—a method which is ultra-conservative in the amount of surgical interference.

In the older method of treating empyema, that is by rib resection and open drainage, many of us have been fairly well satisfied and all can recall recoveries that have followed in patients where the surgical procedure has been very crude. Yet there are certain cases in which for some reason the release of the pus and establishment of open drainage does not reduce the toxoemia or prevent the unfavorable termination of the disease. There are certain factors of great importance now more clearly recognized in the surgical care of these patients. The first and most important is that no operation should be performed early. In this connection it is well to note that it is not the pus within the chest cavity, but it is the bacteria and toxins within the pleurae—or within the walls of the abcess cavity that are intoxicating the body. So long as the quantity of pus is not so large that by its mere bulk it interferes with the action of the heart and lungs there is no great hurry in removing it. I justify this statement by 'the fact that empyemata unrecognized have become sterile and the pus has been retained within the pleura for weeks while the patient was clinically well. However after the body has generated its autogenous vaccines and the resistive forces are gaining control of the situation it is then desirable to rid the chest of pus.

Patients having empyema or purulent pleuritis are nearly always just recovering from pneumonia or still suffering from pneumonia. It is therefore important to conserve their energy by external heat, plenty of oxygen and plenty of food. The rapidity of cure and the restoration of the lungs to their normal function will depend upon the thoroughness with which the empyema cavity is cleansed of its pus.

By the "closed method" of draining and cleansing empyema cavities is meant evacuation of the pus and irrigation of the empyema cavity without permitting any air to enter the pleural space. The advantage of such a method lies chiefly in the fact that the lung is not collapsed and can continue to function, this factor being of great importance in double empyema. Further the character of the operation is so minor that the patient experiences little or no shock and does not require general anesthesia. Also the clinical results seem to indicate that:

1. A larger percent of recoveries result.

2. The period of convalescense is shorter.

3. Their are fewer unfavorable sequelae such as permanently collapsed lung, long continued sinus and deformity of the chest. The technique of the method might be described in several successive steps:

1. Use absolute aseptic technique as for major surgery.

2. Select the most favorable site for introduction of the tube. It is important and almost essential to have an X-ray plate of the chest so that definite knowledge of the location and extent of the empyema may be determined. At Camp Pike I saw two cases where there was a large mediastinal abscess giving physical signs hard to differentiate from pericarditis. The drainage tube was introduced through the anterior chest wall near the sterum. Where possible the tube is inserted near the most dependent portion of the empyema cavity.

3. Use local anesthesia. Usually novocaine and adrenalin infiltrated into the skin and intercostal muscles is satisfactory.

4. Insert a specially prepared trocar between the ribs. The intention here is to insert into the empyema cavity a trocar through which a medium sized soft rubber catheter may be passed. This should be done in such manner as to avoid allowing any air to enter. Often with an ordinary trocar the pus is coming out so freely that with haste the catheter can be started through it before any air is sucked into the chest by respiratory efforts. However a special trocar with a two way channel into one of which may be introduced the obturator and through the other the catheter is preferable. The obturator may then be withdrawn but not completely and the catheter introduced. An artery clamp closes the distal end of the catheter.

5. A syringe is attached to the distal end of the catheter and by alternately releasing the artery clamp and applying suction the cavity is evacuated. Care is used that the catheter is always clamped when the syringe is disconnected.

6. When properly within the cavity the canula is withdrawn, the catheter being threaded through it and left in situ.

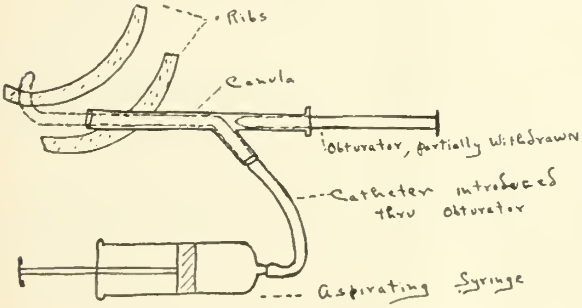
7. The cavity is now irrigated with Carrel-Dakin solution using a quantity sufficient to fill the cavity and then withdrawing it. Some important precautions are necessary here. The first injection should be small in quantity and slowly injected until it is ascertained that no communication between the cavity and a bronchus is present. As Carrel-Dakin solution is highly irritating to mucous membranes, distressing or even disastrous results might follow. The cavity should not be over distended with fluid. The fact that it is full can be determined by holding the filled syringe in a vertical position so that the weight of the piston is all the force that is being exerted upon it. When it has stopped in its downward course the cavity is full.

8. The catheter is clamped and light dressing applied and the patient returned to bed.

The subsequent treatment consists in frequent irrigation in the manner described above. As often as every four hours is desirable where proper assistance is available.

The time to discontinue the irrigations is indicated by the character of the returned fluid. When the Carrel-Dakin solution returns in the beginning of the irrigation, clear and free from pus the catheter may be withdrawn. A sinus will then be left which leads into the pleural cavity. This should be dissected under local anesthesia down as far as the pleura, there tied off and the wound closed by suture.

My observation of the patients treated in this way leads me to believe that they are more comfortable during convalescence, that they convalesce more rapidly and that they usually do not become as weak, emaciated, anaemic and debilitated as when rib resection is performed. The statistics as reported in an empyema symposium at Camp Pike wherein comparisons were made between the results obtained during a period of several months by rib section and the results during an equal period by the "closed method," are decidedly favorable to the latter plan.


Ribs
Canula
Obturator, partially withdrawn
Catheter introduced thru obturator
Aspirating Syringe

Closed Drainage – Empyema

Antiseptics in Surgery.

J. S. Welch, M. D., Lincoln.

The excuse for any discussion of the role of antiseptics in surgery at present is based upon the apparent swinging of the pendulum away from asepsis to antisepsis. From the earliest records of medicine, antiseptics were known. Healing lotions, ointments and balms were terms commonly used by Hippocrates. The character of some are known, and many, many others are not. In modern times Lord Lister discovered new possibilities for them and increased the accomplishments of our surgical practice manifold. The stimulus they brought to surgical research, the discovery of pathogenic bacteria and the action of antiseptics upon them is now an interesting fact in medical history. When the known "modus operandi" put into discard their empirical usage, the prevention of infection was made possible and asepsis made its debut. So rapidly has surgery without infection developed, that the use of antiseptics in well regulated hospitals prior to the war had well nigh ceased. The very watchword in modern operating rooms was "begin clean, keep clean, do anything, and spell success." It is difficult to imagine, therefore, how overwhelmed the surgeons of Great Britain and Europe were to have precipitated upon them in 1914 thousands and thousands of virulent pus cases and almost no clean cases. The surgical pendulum has swung back from its high arc of asepsis to keen demand for antiseptics. To say that a review of the antiseptic action of carbolic, bi-chloride, formaldehyde, boric acid, peroxide, iodoform, Labarraque's solution, potassium permanganate and oxalic acid, bismuth, Harrington's solution, iodine, etc., ad infinitum, would be putting it mildly. Each had passed its fashionable day; each had its usefulness. It is interesting to note that here again "old things are best," for in the final selections old principles were found most efficient. From England came a combination of bismuth and iodoform in petrolatum called "Bip." From France came Dakin's modification of the Labarraque solution, with Carrol perfecting the method of applying it. Of course there are others. Without doubt the war chapter of German medical history, as yet unknown to us, will reveal other new resurrections or even new antiseptics, for their problems were the same. But of all, the chlorine-bearing antiseptics unquestionably have prior claims to greatest success.

What I shall have to say further about antiseptics will apply to their use in wounds and not upon surgical instruments, hands, etc. The test of usefulness for any antiseptic depends, first, upon how non-toxic it is for living tissue cells in the wound and elsewhere in the body; second, how toxic it is, directly and indirectly, toward bacteria (bacteriocide pabulum changed); third, upon its application possibilities, its contact, penetrability, speed of disinfection, and the permissible concentration; fourth, its miscellaneous characteristics, such as ease of preparation, cost, stability, pain caused in applying and removing dressings, quantity of dressings needed (lymphagogue), and its action upon crusts, dried secretions, and necrotic tissues.

In using these various antiseptics one must not forget the patient behind the wound, as dentists five years ago neglected health behind an infected root under a splendid crown. One must not clinically sterilize a wound with phenol at the expense of a cloudy urine and acute nephritis. "Bip" must not produce a metallic gum line, gingivitis, and acute Bright's disease while cleaning up an infected wound. The toxicity must be considered in connection with speed of disinfection in permissible concentrations of any and all antiseptics.

Quoting of Few Experiments.

A 2 per cent solution of phenol failed to sterilize a mixture of blood serum and muscle extract in 24 hours, although the surviving organisms were only two per thousand of those originally present. Mercuric chloride (1:1000) accomplished the same degree of disinfection in three hours and completely sterilized in seven. Acriflavine, a dye recently introduced as an antiseptic, (3:1000) killed all the bacteria in about nine hours. In very sharp contrast to these antiseptics, the members of the chlorine group were extremely rapid in action. Sodium hypochlorite (Dakin's solution), 0.5 per cent, completely sterilized in 4 minutes; eusol, 0.27 per cent and chloramine-T (2 per cent) in 5 minutes, and dichloramine-T (2 per cent in oil-solution) in less than half a minute when well mixed with the septic material.

Austin and Taylor have shown the behavior of hypochlorite and of chloramine-T solutions in contact with necrotic and normal tissues in Vivo, experimentally, in the following manner:

The left ears of three white rabbits of the same relative size and weight were exposed to the rays emitted by a Coolidge tube. The sparkgap used measured three inches; the milliamperage was 10; the distance from the target to the ear was six inches, and the time of exposure was twenty minutes.

Eight weeks later the X-rayed ears each exhibited a sharply demarcated gangrenous area over which there was considerable crusting of epithelium and secretions, and in the lumen there was much thick pus.

The ears of the affected rabbits were each suspended for twenty minutes in a beaker containing 400 ccm. of the solution to be tested.

As a result of these determinations the authors drew the following conclusions:

1. The fall in chlorine concentration of Dakin's hypochlorite solution is more rapid in contact with necrotic than in contact with normal tissue.

2. The fall in chlorine concentration of chloramine-T solution is very slight when applied to necrotic tissue and is negligible when applied to normal tissue.

3. The action of the hypochlorite solution on tissue results in the separation of particles of necrotic tissue, hair, epithelial scales, coagulated serum, etc., and a gradual digestion of these substances, taking place over a period of at least seventeen hours.

4. The fall in the chlorine concentration of the hypochlorite solution is not complete until the particles are completely dissolved.

5. Chloramine-T solution, 2 per cent, has no erosive effect comparable with that exhibited by the hypochlorite solution.

6. Repeated exposures to the three solutions show the hypochlorite solution to be superior in its cleansing ability on necrotic tissue.

7. The hypochlorite solution is much more irritating to normal rabbit skin than chloramine-T solution or the alkaline control solution.

8. Therefore, the irritating effects must be due to the readily available chlorine.

They have also shown the action of antiseptics on the toxin of bacillus Welchii. It seemed desirable to perform a series of experiments with a definite toxin which could be quantitatively measured and a suitable susceptible animal as an indicator. Bull and Pritchett have demonstrated a toxin for bacillus Welchii which fulfils all the requirements of the so-called group of soluble or exotoxins. They have standardized the virulence of this toxin, and confirmed the unpublished observation of Flexner that the pigeon is highly susceptible to the toxin and that the lesions produced in this animal are similar to those observed in human cases of gas gangrene.

As wounds infected with bacillus Welchii are frequently encountered in military surgery, and as the antiseptics studied are used extensively on wounds of this character, it was decided to use the toxin of Bull and Pritchett and the pigeon as a very sensitive indicator of the relative toxicity of the various toxin-antiseptic mixtures in the series of experiments here recorded. Ten experiments were performed. Comparable results were obtained in all.

The following conclusions are drawn from this work:

1. Dakin's hypochlorite and chloramine-T solutions will protect pigeons against multiple fatal doses of the toxin of bacillus Welchii when the antiseptic and the toxin are mixed in vitro and allowed to stand in contact for five minutes before injection.

2. The detoxicating action of the solutions is demonstrable also in the presence of serum.

3. Phenol solution, 0.25 per cent, has no such action.

These and many other experiments are being or have been done to show relative merits of different antiseptics. For non-toxic effects upon the patient and efficiency in destruction of organisms, chlorine products undoubtedly deserve first mention. Of these, the chloramines seem best. They are more easily prepared in safely accurate dilutions, cheaper in quantity needed per dressing, far more stable, cause no more (or even less) pain, are quicker in change of dressings, and far less extravagant in quantity of surgical supplies needed.

These chlorine antiseptics act best where air is present in their wound contact, and yet empyemas treated through some modification of Brewer tubes with Dakin's solution in almost complete absence of air become clinically sterile in a few days. Even appendix peritoneal abscess cavities are being filled with this solution and good results reported.

In our dressing room many minor pus cases are attended. Dichloramine has become a favorite. A dressing every 24 or 48 hours, with the smallest quantity of gauze—which causes little pain when changed and consumes least time—and with a rapid convalescence, is pleasing to the patient, the doctor and the employer. We have never been able to use the Carrel-Dakin solution with any such satisfaction in these ambulatory cases, and but few times in the major infections. The inaccuracy of preparation, the instability, the necessity of frequent application, etc., have rendered it far less useful.

Important as these antiseptics are, however, they are not cure-alls. Persistent cases arise where we must resort to other principles. Indolent, indurated ulcers, failing to respond to chlorine antiseptics, stimulation, etc., will under the greater lymphagogue action of Unna's paste, for example, often very rapidly heal. So here, I believe, just as the slightest change in culture media converts it from good to bad for the growing bacteria, just so in the wound dose will a correct change in the antiseptic convert the bacterial pabulum from good to bad, and healing of the wound accordingly results. It is the concentration of the minds of bacteriologists and clinical surgeons alike on these problems of wound infections and antiseptics that has made the pendulum swing back. War wounds were all infected. The enormous number of cases demanded this concentration of mental energy, while in civil practice internes and nurses had busied themselves with pus cases. The master surgeons and bacteriologists were remotely divorced in their tasks. The former were too busy dealing with major operations to give time or attention to the so-called drudgery of pus cases. It is but another lesson brought by the war—more cooperation and less individual effort in a field so vast and so detailed in technicalities and scientific training that no one mind can grasp it—much less practice it. Because the war hospitals assembled these various experts, all working in co-operative unison, could such efficiency be acquired. Incidentally this is a plea for greater hospital or group efficiency, so well illustrated in war hospitals.

But what of the relative value of antiseptics in surgery? Important as they have been, especially in our war wounds, we should not exaggerate their relative value. The successful care of suppurative wounds depends on many other factors than their bacterial content. Of these, adequate surgical interference at the operative time is obligatory. Early removal of foreign bodies and dead tissue, correct drainage, rest and fixation of parts, etc., etc., will probably never be replaced by antiseptics. We really have no specific antiseptics unless you include arsenic and quinine for certain animal parasites, or such antitoxin as for diphtheria and tetanus. Antiseptics are at best only supplementary aids, often demanding great surgical judgment for most efficient usage. And while chlorine products have been a most welcome improvement, still it may be but a passing day until they too are relegated to the rear with carbolic acid, bichloride, etc., by some more potent product.

Fractures of the Arm (Simple and Compound)

Value of the Dakin and Dichloramine-T Solution in the Treatment of Infected Cases.

By William H. Pruner, M. D., Omaha.

At the present time there is appearing in literature numerous articles concerning fractures. It is true that since this great world's war the battlefield has contributed largely to numerous improvements in the treatment of fractures. We must especially consider the infected type in which there has been wonderful achievement made with the new chlorin preparations, i. e., Dakin and Dichloramine-T solutions.` There is no question but the addition of these chlorin compounds has performed miracles and has been the means of saving many a limb, whereas, before its use, we were unable to really combat this condition. Cases which were considered hopeless now respond wonderfully and quickly to this treatment. The wonderful achievements made, especially in bone surgery, seems to be almost superhuman.

The teachings of Murphy and Albee and other great bone men has really revolutionized bone surgery. While there were certain fundamental principles relative to the proper route in handling these cases, it seems they were able to start at this point and add many new features. It has been proven without question that bone transplantation has been a success. In other words the experimental stage has passed; the evidence at hand places bone surgery on a definite basis when the proper principles governing bone surgery have been clearly followed and in my judgment during this great war there will be many more accomplishments added to the present.

Murphy, in 1914, in discussing the open treatment of fracture before the American Medical Association of Railroad Surgeons, really sounded the keynote. It is true he has said much and contributed many articles previous to this relative to the treatment of fractures with Lane's plates, bone graft, etc., but in this particular instance he made a few remarks which are considered essential in getting at some basic principle in the treatment of plating or not plating bone. The law he laid down is practical: If one can reduce a deformity and maintain it by other means than operative procedure, that is the proper route to follow, and when one understands the meaning of these words it means much. In other words, he has said that which is essential and should be observed as nearly as possible. He further says if one has exhausted their ingenuity in the way of splints, casts, supports and traction, you cannot bring it into apposition, then it is essential that you resort to other means. He has really, in a few words given two definite laws which should never be overlooked. There is a type of case in which we have a sero-sanguineous septic fluid, an infection which prevents union. Dr. Murphy says there is no pus and causes no elevation of temperature but has some effect in preventing the healing of soft parts and bone.

The writer has had experience in this type of case and has used Dichloramine-T successfully in eliminating this septic condition and making it possible to perform an operation later with prospects of reasonably good results, whereas, before this the sero sanguineous fluid continued for some time and just about the time you thought the discharge was cleared up it would suddenly reappear. This would continue until considerable bone tissue was involved and the next thing would be the sloughing of necrotic bone (sequestrum).

Case No. 1. Mr. F. C. A., age 45, Motor Traffic Officer. On October 23, 1917, was run into by Ford automobile. This man was removed to the Wise Memorial Hospital where I called to see him and upon examination found a portion of the humerus protruding through the skin. The man was removed to the operating room, the parts were sterilized, the bone replaced and posterior splints applied. A radiogram was made by Dr. Carl Ballard, which showed the presence of a "Y" fracture of the external and internal condyles. The man was placed in bed, the arm slightly elevated, and at the end of the 10th day the swelling had receded sufficiently to allow me to plate the bone. Two incisions were made; the first over the internal condyle; the structures were separated; the ulna nerve dissected from its groove and laid to one side; three fragments of bone removed and plate applied. The second incision was made over the external condyle; the bone was exposed nicely and two fragments of bone removed and the plate applied. The arm was placed in a cast and at the end of the second month the casts were discontinued and passive motion used. At the end of the third month there was very little motion, although we had daily used passive motion we did not attain any special benefit and excision of the elbow joint was then decided upon.

The ankylosis in this case was extremely marked and perhaps an excision of the joint should have been suggested in the beginning, but, at any rate an attempt was made to replace the broken fragments of the external and internal condyles. The operation consisted of making a longitudinal incision about two and one-half inches above the olecranon process, slightly to its inner side, and carried downward three or four inches in the line of the ulna. The tissues were divided down to the bone, the ulnar nerve dissected from its groove behind the inner condyle of the humerus and held aside by a retractor. The tendon of the triceps muscle was divided and its attachment to the facia and periosteum, over the olecranon process, separated by the periosteal elevator and turned downward. The capsule joint was next opened and the lateral ligaments divided.

In this case the anatomical structure was considerably changed and one, of course, must vary slightly from the usual rule of excision of the elbow joint. The condyle of the humerus was removed with Gigley's saws and the olecranon process likewise removed. In excisions of the elbow joint the amount of bone to be removed depends on the conditions present. The free removal of ends of the bone is essential to get the desired results. The arm was placed in a posterior splint and on the 5th day motion was employed and at the end of two and one-half weeks the splint was removed and the man allowed to carry the arm in a sling. He calls at the office each day and we engage a few minutes in passive motion. Results in this case were very good, he having regained partial function of arm.

Case No. 2.—Mr. E. R., from Silver City, Iowa, consulted me September 1, 1916, regarding a double un-united fracture of the forearm. He gave a history of having received an injury to the arm some six months previous while in the act of digging a well. He consulted a physician of Council Bluffs who treated the case in the usual manner, i. e., splints, casts, etc., and after six months treatment, the bones failed to unite. I referred the case to Dr. A. P. Overgaard for radiogram which showed an un-united radius and a partly united ulna. The man was removed to the Wise Memorial Hospital where I operated upon him by the open method. Lane's plate was applied to the radius and the fibrous portion of the un-united ulna removed. Cast applied on the second day after operation. Plate was allowed to remain in the arm for twelve weeks at which time radiogram showed both bones in excellent position with evidence of union. The man was readmitted to the hospital and the plate removed and upon manipulation both bones were found firmly united. About one and one-half years later he called at my office complaining about his arm causing him trouble. Upon examination the radius was found firmly united but the ulna un-united. Upon questioning him he attempted to confuse me regarding which one of the bones I had plated. This question was easily settled by returning to his history sheet and radiograms. It appeared to me if my operation had not been a success he would have returned to me at an earlier date and informed me of my failure. He had been doing all kinds of work and had never complained of any difficulty with the arm. After making a personal investigation, I learned he had recently engaged in a fistic combat and shortly afterward the arm gave him trouble.

Case No. 3.—Mr. C. H., Winner, S. D. Consulted me in 1915, complained of having broken his arm some six months previous, while engaged in a wrestling match. He consulted his home physician who reduced the fracture and applied a cast. The cast was kept on the usual length of time and upon its removal the bones were found to be un-united. The man was referred to Dr. A. P. Overgaard for radiogram, which showed both bones of the forearm ununited about the middle third. The man was removed to the Wise Memorial Hospital, where I operated upon him May 1, 1915. The end of the bones were freshened and plates applied to both bones. After twelve weeks the plates were removed and both bones found to be firmly united. His sister recently advised me that he was following his trade, that of a bricklayer, and was able to work every day suffering no inconvenience.

Case No. 4.—Mr. S., age 65. Was injured November, 1917, being run into by an automobile. The man was removed to the Wise Hospital and X-ray examination showed that he had an oblique fracture of the humerus, being slightly compound and communited. An attempt was made to reduce the fracture but it was impossible to hold the bone in proper position. A posterior splint was applied and at the end of the second day I decided upon making an incision and seeing what could be done. The arm, at this time, was only slightly swollen, although there was considerable deformity. An incision was made over the point of fracture, the structures divided and the humerus found to be badly shattered. Loose bone fragments were removed and the plate applied, the bone being very fragile it was necessary to exercise extreme care as the least exertion split the bone.

Whether to remove the arm or make an attempt to plate the humerus, was the question to be decided. I choose the latter thinking an attempt should be made to save the arm if possible. After the plate was applied, the arm was placed in a splint and on the second day a cast was applied. The arm progressed nicely until the 10th or 12th day at which time considerable swelling was noticed. The patient ran a temperature and carried a high leucocyte count. He was removed to the operating room, the incision reopened and the plate removed. Considerable pus was encountered as well as one piece of necrotic bone. The infection was extremely marked and the bone had very little vitality, this of course, was noticed before an attempt was made to use the plate. Carrel-Dakin treatment was employed and the infection readily disappeared.

At the end of three weeks, conditions were such as to allow me to discontinue the treatment and apply a new cast. The arm progressed nicely although there was no evidence of union. Two or three casts were applied to the arm in the hopes that eventually some good development might take place which would cause us to think the arm would unite, but again the infection returned and became more pronounced. The Dichloramine-T solution was used without effect. Radiogram showed considerable distruction of bone tissue and I decided to amputate the arm, which I did and the man recovered.

In this case the man's age, of course, should be considered as an etiological factor in failure of getting union. It appears when one of such age has a fracture of such severe nature one is justified in recommending amputation. However, there is no objection in making an exploratory incision relative to ascertaining the degree of fracture and determining at the same time the structural condition of the bone and in this manner one can easily ascertain whether or not one of such advanced age could have the plates applied, with prospects of a reasonably good assurance of ultimate union. This rule, in my judgment, should apply only to those of advanced age and in which case the surgeon has in view, as his objective, the possible chance of saving a limb, but, with many of these old people, one is not able to perform successfully the operation of choice, such as plating and bone graft, we must resort chiefly to the means of saving the life.

Recently, during a visit in Colorado, I was called in consultation with Dr. C. C. Johnson of Cortez to examine a compound fracture of the tibia and fibula. The history of the case was as follows: Man received fracture by running automobile off a bridge in Arizona. He was taken to Phoenix where a surgeon was consulted. He explained that when he reached the hospital both bones were protruding through the skin and the leg was somewhat dirty. The surgeon advised immediate wiring of the bone. Upon inquiry I found that an X-ray had not been made. The bone was wired and very shortly afterwards became infected and the case instead of improving became worse, infection more virulent and the condition more alarming. A second surgeon was called in consultation who advised the proper preliminary steps, i. e., radiograms. This showed both the tibia and fibula to be over riding, approximation not perfect, loose and necrotic bone. He, therefore, advised incision, removal of the wire and dead bone and the use of Dakin solution. After this treatment was employed there was immediate relief. When the infection had subsided, the doctor placed on a cast and sent the man to his home in Cortez, Colorado, at which place Dr. Johnson removed the cast and upon examination no evidence of union found. Another cast was applied and the man advised to be patient as his general condition at that time would not permit further surgical interference such as plating or bone graft.

In this case it appears to me the original surgeon did not understand the fundamental principles governing bone surgery. In the first place he erred by not having an X-ray of the leg, showing the degree of involvement and in the second place he was too hasty in wiring the bone. I feel in this case, as in many others, the patient was put to unnecessary suffering, whereas, if the proper principles governing the treatment of a case of this kind had been properly carried out there is no question but the bone would have had a better chance to unite than by the method employed.

War literature has added so many startling and interesting features to the bone question that one in civil life feels he is unable to say much, for his experience, in many ways, must be only meager compared with those who are now rendering assistance to our soldiers in France.

A certain number of these cases have presented themselves to me which were indeed interesting and I feel that in many instances I saw not only my own failures but the failures of others and in many instances I attribute the failures to the lack of adhering closely to principles governing such type of surgery.

The difference in opinion, both surgically and medically, seems to be an essential, legitimate and ethical proposition. By that I mean that the surgeons and internests will differ repeatedly relative to whether or not surgical interference is or is not indicated. The surgeons are constantly getting into disputes regarding certain technic and routine governing a surgical procedure and internists have been eternally scrapping among themselves for years, in an ethical manner. Doctors are no different than lawyers, who, not infrequently, have differences of opinion relative to certain legal issues and it is the difference of opinion that creates competition and hence increased energy, but, in a general way definite principles have been laid down which govern the proper route to be followed by all surgeons and internists.

The most frequent and laughable criticism that I can find with the average surgeon is the one who advocates such thoroughness in post operative treatment and never calls on the case but once during the convalescence period unless some unforseen complication arises which necessitates more frequent visits. It is not infrequent that we see in literature certain post-operative procedures advocated by a surgeon of repute and knowing him as we do, can only criticise by knowing that he does not practice what he preaches. I feel, for reasons too numerous and obvious to mention, if the proper care had been given, not only during the operation but the post-operative period, there would have been many less unfortunate victims of surgical blunders. It appears that one who applies himself regularly in this particular matter would at least feel better, his conscience would be clear that he had rendered, not only during the operation but during the post operative period, his best, that he had put forth every effort to be successful and if failure was the outcome it was not due to lack of attention.

Bone surgery is one branch of surgery in which the surgeon must be patient. In this we have one form of surgery by which the ordinary law of sensibility tells us that we cannot allow the majority of cases to arise from bed too soon or the results will be disappointing. The writer has personally known of complications to arise by allowing the patient to arise from bed too quickly. Why should one be subjected to subsequent unnecessary complication which follow a surgical procedure for the sake of advertising the surgeon on the manner of quickness in which his cases are allowed to leave the bed? This is one branch of surgery which requires time, patience and perseverence and a good disposition, not only for the doctor but the patient as well.

Many surgeons differ as to the choice of method for keeping a fracture in apposition. Those most commonly used are Lane's plates, wire, cat gut, silk, nailing, ivory pegs, and healthy bone fragment implants. It appears plate and bone graft are the operations of choice at this time.

I have used the Dakin solution in severe cases, it is of great value but has been discarded largely and many are using the Dichloramine-T which requires less attention and is not so irritating to the skin and gives apparently just as satisfactory results. The writer's experience with the Dakin solution has been in compound fractures or fractures following operative procedure. It is not only a wonderful bactericide but possesses great power of dissolving infection, tissue debris, blood clots, etc. It is true the technic in this treatment is comparatively easy after one has passed through the experimental stage, however, one will encounter considerable difficulty if inexperienced. It is necessary to have a capable assistant or nurse who is familiar with the treatment. The chief difficulty is in protecting the skin and I have found that the paraffine paste is just as satisfactory as the petroleum. The Dichloramine-T solution seems to be most accessible in many respects. It seems to possess all the qualities of the Dakin solution and answers the purpose just as satisfactorily. It being an oily preparation, prevents dressings from sticking, causing less pain when being dressed. It is applied by an ordinary hard rubber or glass atomizer and possesses enough antiseptic properties so that the dressings need to be changed only once in every twenty-four hours in deep wounds and once in thirty-two hours in superficial wounds, however, this depends upon the condition of the case. I have changed dressings as often as every twelve hours in this treatment.

The great disadvantage to the Dakin solution is the disagreeable soiling of dressings and bed linens, this being hard to eliminate convinces one of the practical side of Dichloramine-T. The writer has used the old solution successfully and looks with favor on the Dakin treatment. The profession is grateful to Drs. Carrel and Dakin for the efforts they have put forth in giving to the profession a preparation which possesses all the elements in combating infections which at one time were thought to be absolutely impossible to be relieved, however, it appears that the more simplified methods are becoming more recognized and therefore the Dichloramine-T has largely caused the Dakin solution to be stored away in the archives with other pioneer medical developments for more simple methods with end results being just as satisfactory.

Dakin's belief regarding the germicidal action of chlorin compounds depends upon substances resulting from chemical reaction between chlorin and proteins of the tissue and exudates in infected wounds, which substances are known as chloramins. Chloramins, unlike chlorins, do not possess any destructive power to the tissue and may be used in reasonably strong solutions i. e. 10%, therefore, with chloramins it is not necessary to use the weak concentrations which would require frequent applications, although essential when chlorin solutions are used. Virulent infections of strepticocci, pneumococci and other pathogenic organisms must be treated, of course, by a method which, if possible will remove from the tissue these bacteria.

In the early part of the present war attempts were made by surgeons to close gunshot wounds by primary operations, this was not successful and many disastrous results occurred. Shortly afterwards the Carrel-Dakin treatment was recommended and became a popular method used for all deep seated infections. Numerous articles have appeared in print concerning the Dichloramine-T solution in the treatment of infections and infected wounds and the conclusions which were reached were that by the use of the Dichloramine-T, it had definitely improved results in many respects. The chemical agents should not be expected to perform that which could not be done thoroughly by mechanical means, therefore, it appears that the surgeon should make an attempt to sterilize mechanically, the wound as nearly as possible.

Chlorin compounds react only in bacteria with which they come in contact. The germicidal value of the chlorin compounds depends entirely on the accurateness in which the solution is used; it must come in direct contact with the bacteria, else it does not inhibit their action. If it does not perform the desired results, it is to be believed that it has not reached or come in contact with the bacteria. It apparently appears that if properly employed we have almost a specific against infection.

Simple and compound fractures and especially compound fractures cause the surgeon much work and perhaps at times causes him to feel that he has had sufficient number of cases of discouraging type to make him never wish for such type of case again, but, on the other hand we occasionally have the pleasure of reconstructing bone with end results which are extremely satisfying. The surgeon should not be expected to do more, mechanically speaking, than a woodworker. Some things cannot be made perfect but the achievement made in bone surgery is wonderful and has given the laity many limbs, whereas, in former years amputation seemed to be the only outcome.

Summary.

It is now generally accepted that a clean, careful surgeon, under proper conditions in which the bone cannot be placed in proper apposition, cannot be retained by supports, that the open method or open operation is advised. This seems to be a definite conclusion, however, there is no doubt but the open method is too frequently practiced. There seems to be a certain type of case in which the patient exhibits extraordinary susceptibility to infection and shock. There is no way of determining this susceptibility before operation but we see it frequently afterward. Shock is a condition which may occur from slight traction. Infection may develop soon after operation; it is a proposition the surgeon is always suspecting, or it may come weeks after operation. Infection which occurs some time after operation is of a low grade and usually, if given the proper attention, does not advance to a degree of severity. It is not uncommon, in removing plates, after union is established, to find a slightly necrotic area in which the screw has been resting and it has been proven that not infrequently an infection originates in this manner, therefore, it is advisable to remove the plates in the majority of cases. In case you have a profuse discharge or infection following operation, a large amount of pus escaping with systemic envolvement, it is quite essential to remove the plate and sterilize the wound either with Carrel-Dakin or Dichloramine-T solution.

The chlorin compounds have wonderfully improved the mortality of deep seated and rapid spreading infections. The writer has used the ordinary alkaline antiseptic solutions in infections of moderate severity with Carrel tubes and has had good results. The question arises whether or not one can keep a continual flow of alkaline antiseptic over an infected area, using the method advised by Carrel and obtain results such as one gets from Carrel-Dakin and Dichloramine-T solution.

Plates occasionally act as foreign bodies, retarding osteogensis and require removal before one can expect union. The surgeon should do as little handling of bone as possible and eliminate unnecessary trauma. The field of operation should have extreme care and post-operative treatment carried out to the letter.

The End Results of Tonsillectomy.

D. D. Sanderson, M. D., Lincoln.

It is not my intention to bring out any real dramatic discussion of a subject that has so many sides as has the end results of tonsillectomy. Nor do I expect to present to you many of the good sides or even all of the bad ones. But in this day of the slaughter of the American tonsil, as one of our Holland collegues lately termed it, it is time to look at some of our results. And I dare say they have not all been crowned with glory.

The brilliant results brought out by Dr. Bushman at the last meeting of the State Association, which you have undoubtedly all reviewed in the recent issue of the State Medical Journal, calls to our minds the good results that sometimes crown our acts. However, he sounds a partial note of warning and cautions us to be careful that we do not place the blame on an innocent part.

It has recently been pointed out that injections of carmine or any substance that is carried by the lymph stream, may be made in the nasopharynx or mouth, excepting the very anterior portion of the nose or lips, and in due time, that is from a few hours to two or four days these same substances will be found in the tonsil. Therefore it is quite apparent that the tonsil is but a part of the lymph chain caring for the accumulated infections in the mouth, nose and accessory sinuses. This being true, how can we expect to relieve the general system of infection by breaking the lymphatic chain, any more than we would remove all the infected glands in the body of a syphilitic to cure syphilis? An inflammed tonsil may be only an indication of an infection higher up.

Again the tonsil having quite a free circulation of both blood and lymph is nearly always moist and aids very markedly in moistening and warming the air rushing into the lungs. Having once removed the tonsil little is left but the scar tissue and this is of very little benefit in preparing the air to enter the lungs. I dare say every man who has removed tonsils has had his patients complain of the dryness of the throat. This is caused by replacing a space once filled with a moist tonsil with nothing, or with scar tissue. I would also call your attention to the fact that while removing the tonsil may in some cases prevent the contraction of cold infection, I have never seen any indication of people who have had their tonsils removed being any freer from pneumonia than those with tonsils.

I would be glad to have those of you who do a general practice, report on a percentage basis, the number of fatal pneumonia patients who have had their tonsils removed as compared with those who have not had tonsillectomy.

All sore throats are not sore tonsils and these throats are invariably made worse by tonsillectomy. In a pharyngitis in which the posterior pharyngeal wall is infected, removal of the tonsil simply disturbs the lymph stream that is attempting to care for the infection and the infection gradually, but steadily becomes worse, and finally develops into an atrophic pharyngitis. Some of you may recall the fact that one of our esteemed colleagues who advocates the transplanting of cartilage into the nose in atrophic rhinitis also advocates the uncompromising slaughter of tonsils; this seems to be rather a contradiction of ideas. For if it is good to fill in one place why isn't it good to leave what is already in another?

Our literature is as yet too indefinite to reach any conclusion as to the benefits derived by removing tonsils for the relief of goiter conditions.

Blodgott says he does not consider the removing of tonsils has any influence on goiter cases.

Sher considers all goiters can be treated medically, and reports a series of 410 goiter cases all cured.

Tydings reports some improvement if the goiter condition is a direct result of tonsillar toxemia.

Sonnenschein contends that while many toxic conditions of the body, goiter included, may be a result of diseased tonsils there is a greater tendency, at the present time, to

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Read before the Lancaster County Medical Society at its annual election meet, December 21, 1918, Lincoln.

blame the tonsil for "all the ills that flesh is heir to," and considers this quite absurd.

That there is some function for the tonsil to perform in the welfare of the general system is apparent in the results obtained in corea.

Johns Hopkins hospital reports out of twenty-three operated cases; two died during the first year of acute corea; one had corea three years after; one was worse after the operation. In all eight of the operated cases up to the time of the report had recurrences. And one had developed corea after tonsillectomy. I have had one case of this latter type in my own experience.

Miss S., age 17, gave a history of sore throat, had never had quinsy or any particular trouble excepting that throat was sore. Upon the advice of her physician her tonsils were removed. About six months later I saw her for the first time. I found a profuse post pharyngeal discharge and a pale aemic, shrunken throat giving a typical appearance of infectous atrophic pharyngitis. Microscopic examination of the discharge showed streptococci, diplococci, tetrads and pus cells. In reply to the question as to how much improvement she had noticed since her tonsils were out she replied that she had been much more uncomfortable, her throat was drier. sorer, and she generally felt worse.

Miss A, age 26, had fair sized tonsils with some crypts, had never had any marked disturbance of the throat or tonsils, except some times throat was sore. She was advised to have them removed, she promptly agreed and the act was done. She returned six months later complaining of a dry, sore, painful throat. Inspection showed a pale, aenemic throat that had formerly been full of color and generally appeared healthy. She was given stimulating treatment to use continuously and told to report later. She returned again in about six months, about one year after the operation, with a typical atrophic pharyngitis. And very plainly said that she had been worse since her tonsils were out and did not consider that the operation had done her any good.

Mr. A, age 30, appeared complaining of sore throat and thought his tonsils should be out. Inspection showed a pair of fair sized tonsils with some crypts and a poorly cared for set of teeth. He was advised to have his teeth cared for and report later. This he did and much to his satisfaction his throat condition was relieved after his teeth were put in proper shape.

Mr. H, age 25, complained of aches and pains in various parts of his body and considered that his tonsils must be the cause. However, he was advised to have his teeth cared for which he did and had some relief, but not complete. A culture from his throat and tonsils showed streptococci and diplococci, but considering the healthy appearance of his tonsils he was still advised to keep them. This was accomplished until he made a visit to his home and through the efforts of his folks and the doctor on the job he was robbed of his tonsils. Now, nine months afterward he says he is at least no better and wishes he had his tonsils back.

Miss B, age 26, had been treated for some time for goiter, most of her treatments being X-ray. However, as her general condition grew worse and she began to complain of some throat irritation her doctor removed her tonsils hoping it would be of some benefit to her. When I first saw her about four months after the operation and the discontinuing of the X-ray treatments she gave a history of never having had sore throat to speak of or tonsilitis in any form, but complained that her throat seemed to be getting drier and her cough markedly worse since her tonsils were removed. Upon inspection I found a dry glistening appearing throat with all the characteristic signs of an atrophic pharyngitis. How much of her condition is due to her goiter I can not say, but her condition does not appear to have been improved by the removal of her tonsils. Her mother reported a few days ago that she was growing worse and that her throat especially bothered her.

In a series of 100 consecutive tonsillectomies twenty-seven were much improved. In thirty-four the condition was unchanged and thirty-nine were to various extents made worse. Therefore, I contend that the promiscuous slaughter of tonsils is bringing a generation of atrophic pharyngitis and deranged general systems into our midst. And that at least 50% of the tonsils removed at the present time should not be taken out.

Influenza.

H. H. Waite, M. D., Lincoln.

The word influenza is the term applied to an infectious disease which periodically affects large numbers of people. The history of this disease most clearly indicates that it was known and recognized in ancient times. Herodotus and Livy describe an epidemic which occurred in 412 B. C. which certainly appears to have been influenza. Authentic epidemics of the disease have occurred frequently since 1173. During this year the epidemic spread over England, Germany and Italy. In the thirteenth century only one epidemic is recorded, that of 1239, though it is extremely probable that others occurred. In the fourteenth century there is a record of four; in the fifteenth, five; in the sixteenth, eight; in the seventeenth eight; in the eighteenth, twenty; in the nineteenth, fourteen. During the present century three epidemics have occurred, one in 1907-8, a second in 1915-16, and a third, the most destructive of all, which still prevails but at the present time has largely subsided in Europe and the United States. If this epidemic is like all others which have occurred it has passed its zenith and will not assume such proportions again.

The history of all previous epidemics records the appearance of a few sporadic cases in a community followed by an explosive outbreak which in a short time reaches its pinnacle and then dies out, the decline being more protracted than the beginning. The epidemic proper in a given locality usually lasts from four to six weeks, that is, at the end of this period the number of cases still existing is too small to be considered as existing in epidemic form though isolated infections may occur for a year or more.

When any disease affects at a given time a large portion of the world it is said to be pandemic. The first pandemic of this disease which has been recorded, appeared in 1510 and spread over all Europe. It apparently had its origin in Africa. It was benign in character. In 1557 it occurred again in pandemic form. Again all Europe was invaded, its origin apparently being in Asia. Some historians report that it spread to America. In this pandemic the mortality was high. It became pandemic again in 1580, great devastation following in its wake. In 1647 influenza spread through the plantations of America and in the West Indies. According to Hubbard 5,000 or 6,000 died in Barbados and St. Kitts respectively. In the pandemic of 1732 the American colonies suffered, as also the West Indies, Mexico and South America; Russia, Poland, Germany, Switzerland, Holland, England, Scotland, France, Spain and Italy were attacked in about the order named. In 1737 and again in 1742-43 the disease reappeared. In accounts of the latter the terms "influenza" and "grippe" first appeared. The Italians named it "influenza" believing it had its origin from the influence of the stars. In 1743 the French introduced the term "grippe" probably because of the sudden onset of the disease. In 1762 they applied the term "petite poste" and "petit courier" both of which apparently refer to the means of spread through travel. In 1780 they called it "general" because of its universal distribution.

Noah Webster, in a remarkable work on epidemic diseases, published in Hartford in 1799, refers to an epidemic which occurred in 1647 stating that it was the first account which he could find of an American epidemic. A second severe epidemic occurred in 1655. Benjamin Rush describes an epidemic which was brought to Philadelphia in 1789 by members of the First Congress, which had assembled in New York where the disease was prevalent. At this time many of the delegates to the Congress were unable to attend the meeting in New York and the deliberations for which the congress had assembled were postponed until a later date the delegates returning to their homes. Many of those present at the meeting were afflicted carrying the disease to the various communities where they dwelt. In 1807 according to Daniel Drake a wide-spread epidemic also occurred in the west.

From 1803 to 1830 the disease spread from country to country disappearing and reappearing at short intervals. China is said to have suffered most in the pandemic of 1830-32. From China the disease spread to upper Asia, Europe and northern Africa in 1833. In 1847-48 influenza was pandemic with high mortality.

The last pandemic, previous to the present one, is of greater interest to the present generation than any other which has occurred. This pandemic began in 1889 and continued into the year 1890. It had its origin in Central Asia. From Bokhara it was traced successively to Siberia, European Russia, Sweden, Denmark, France, Germany, Belgium and England; Asia Minor, Italy, Turkey and Greece being attacked simultaneously with Germany and England. It appeared shortly after in Tunis, later in Mexico, South America and Australia. Boston was invaded contemporaneously with London, San Francisco with Buenos Aires. It was clearly shown that the chief modes of spreading this disease at this time were through the intercourse consequent upon travel and commerce. An exhaustive report by Dr. H. Franklin Parsons for the local government board in England shows that this pandemic first made its appearance in May, 1889, three localities being mentioned as affected at the same time, all widely separated from one another—namely, Bokhara in Central Asia, Athabasca in the northwest territories of Canada and Greenland. About the middle of October it was reported at Tomsk in Siberia, and at the end of the month at St. Petersburg. During November Russia became generally affected and cases were noted in Paris, Berlin, Vienna, London and elsewhere in Europe. In December epidemic influenza became established over the whole of Europe, along the Mediterranean, in Egypt and over a large area in the United States. It appeared in several towns in England beginning with Portsmouth, but did not become generally epidemic until January, 1890. In London the full onset of unmistakable influenza dated from the first of January, 1890.

Everywhere it seems to have exhibited the same explosive character when once it became established. In St. Petersburg, out of a government staff of 260 men, 220 were taken ill in one night, the 15th of November. During January 1890 the epidemic reached its height in London, and appeared in a large number of towns throughout the British Isles, though it was less prevalent in the north and northwest than in the south. January witnessed a great extension of the disease in Germany, Holland, Switzerland, Austria-Hungary, Italy, Spain and Portugal. But in Russia, Scandinavia and France it was already declining. The period of greater activity in Europe was the latter half of December, 1889, and earlier half of January, 1890, with the beginning of the year as a central point. Other parts of the world affected in January, 1890, were Cape Town, Canada, and the United States generally, Algiers, Tunis, Cairo, Corsica, Sardinia, Sicily, Honolulu, Mexico, the West Indies and Montivideo. In February the provincial towns of England were most severely affected, the death rate rising to 27.4, but in London it fell from 28.1 to 21.2, and for Europe generally the backbone of the epidemic was broken. At the same time, however, it appeared in Ceylon, Penang, Japan, Hong Kong and India; also in West Africa, attacking Sierra Leone, and Gambia in the middle of the month; and finally in the west where Newfoundland and Buenos Aires were invaded. In March influenza became widely epidemic in India, particularly in Bengal and Bombay, and made its appearance in Australia and New Zealand. In April it was epidemic all over Australia, in Central America, Brazil, Peru, Arabia and Burma. During the summer and autumn it reached a number of isolated islands, such as Iceland, St. Helena, Mauritius and Reunion. Towards the close of the year it was reported in Yunnan in the interior of China, from the Shire Highlands in Central Africa, Shoa in Abyssinia, and Gilgit in Kashmir. In the course of fifteen months, beginning with its undoubted appearance in Siberia in October, 1889, it had traversed the entire globe.

Where the present pandemic began has not as yet been definitely determined. Owing to the strict censorship and the limitation of communication between the various countries of the world it has been impossible to obtain information as readily as it could be secured in 1889-90. Some of the places from which it has been reported are Canton and other places in China, the Philippine Islands, South America, Africa, France, England, Norway, Sweden, Germany, Canada, Prince Edward Island, the Island of Guadaloupe in the West Indies, Alaska, Russia, Hawaii, India, Australia, Mexico, the republics of South America and the entire United States. In India alone the death toll has been more than 3,000,000.

It was estimated as early as December 1, 1918, that 6,000,000 had already succumbed to the disease and it is very conservative to estimate that 10,000,000 deaths will result before the pandemic is ended. The spread of the pandemic has been as universal over the entire world as it was in 1889-90.

It is probable that this pandemic, like that of 1889-90, had its origin in eastern Europe or somewhere in Asia. General knowledge concerning the existence of this pandemic came from the reports of its marked prevalence in Spain. In May, 1918, it was reported that 30% of the population had been attacked. It first appeared in Madrid and was so mild in character that it was regarded as some other disease than influenza. Later it became more severe but at no time did it become as severe as it did in other parts of the world. As has so often happened in pandemics of the past it increased in severity as time went on and it spread from country to country. When it reached the United States it had apparently attained its maximum virulence.

Much discussion has arisen as to whether the present pandemic is the same as that which occurred in 1889-90 and in preceding pandemics. Owing to its mildness in the beginning it was popularly regarded as a new disease and was called "Spanish influenza." There are many who still regard it a new disease but the arguments on which they base their beliefs are not valid and there is no good reason to believe that it differs from the old pandemics of influenza which have ness along the back, with shivering, which may continue off and on for two or three days; severe pain in the head and eyes, often with tenderness in the eyes and pain in moving them; pains in the ears; pains in the small of the back; pains in the limbs, for the most part in the fleshy portions, but also in the bones and joints, and even in the fingers and toes; and febrile temperature, which may in the early period rise to 104 or 105 degrees F. At the same time the patient feels excessively ill and prostrate, is apt to suffer from nausea or sickness and diarrhoea, and is for the most part restless, though often (and especially in the case of children and those advanced in age) drowsy. In ordinary mild cases the above symptoms are the only important ones which present themselves, and the patients may recover in the course of three or four days. He may even have it so mildly that, though feeling very ill, he is able to go about his ordinary work. In some cases the patients have additionally some dryness or soreness of the throat, or some stiffness or discharge from the nose, which may be accompanied by slight bleeding. And in some cases, in most part in the course of a few days, and at a time when the patient seems to be convalescent, he begins to suffer from wheezing in the chest, cough, and perhaps a little shortness of breath, and before long spits mucus in which are contained pellicles streaked or tinged with blood. Another complication is diarrhoea. Another is a roseolous spotty rash. Influenza is by no means necessarily attended with the catarrhal symptoms which the general public have been taught to regard as its distinctive signs, and in a very large proportion of cases no catarrhal condition whatever becomes developed at any time."

All of the manifestations described above have occurred in the present pandemic. Some of the more characteristic symptoms which are especially interesting are the sudden onset, the severe pain particularly in the loins, muscles, joints and of the frontal portion of the head, frequent hemorrhages from the nose and other parts of the respiratory tract, the infrequency of a noticeable discharge from the nose early in the disease or at any other time, the distressing cough with little or no expectoration at first, insomnia, chilly sensations without a distinct chill, the high temperature, the marked prostration, the suddenness of onset, the shortness of incubation from time to time visited the world and wrought great devastation through many centuries. It is highly probable that some of the epidemics which have been called influenza were not due to the same cause as that which was operative in this pandemic but all the great pandemics which have occurred seem almost certainly to be due to one and the same specific cause. Some have said that it was a new disease since it was not accompanied by the usual symptoms which occur in an acute coryza, especially the annoying copious discharge from the nose.

Lowe and Bristowe have recorded the signs, symptoms and sequelae as they occurred in St. Thomas hospital, in London and elsewhere in the British empire in 1889-90. Lowe says: "The invasion is sudden; the patients can generally tell the time when they developed the disease; e. g., acute pains in the back and loins came on quite suddenly while they were at work or walking on the street, or in the case of a medical student, while playing cards, rendering him unable to continue the game. A workman wheeling a barrow had to put it down and leave it, and an omnibus driver was unable to pull up his horses. This sudden onset is often accompanied by dizziness and nausea, and often actual vomiting of bilious matter. There are pains in the limbs and general sense of aching all over; frontal headache of special severity; pains in the eyeballs; increased by the slightest movements of the eyes; shivering, general feeling of misery and weakness, and great depression of spirits, many patients both men and women giving way to weeping; nervous restlessness, inability to sleep and occasionally delirium. In some cases catarrhal symptoms develop, such as running of the eyes, which are sometimes injected on the second day; sneezing and sore throat; and epistaxis, swelling of the parotid and submaxillary glands, tonsillitis and spitting of bright blood from the pharynx may occur. There is a dry hard cough of a paroxysmal kind, worse at night. There is often tenderness of the spleen, which is most always found enlarged, and this persists after the acute symptoms have passed. The temperature is high at the onset of the disease. In the first 24 hours it may range from 100 degrees F in mild cases to 105 degrees F. in severe cases."

Bristowe describes the disease as follows: "The chief symptoms of influenza are, cold-tion, the disease frequently manifesting itself 24 hours after exposure to infection, in the majority this period was not more than 48 hours and rarely did it exceed four days. Intestinal symptoms were common constipation being more frequent than diarrhoea. Delirium was frequent especially in those who were severely ill. Profuse perspiration was an annoying symptom in the majority. Marked drowsiness appeared in many cases. Acute and subacute otitis media was a common complication sometimes followed by mastoiditis. Infection of the meninges was not rare and when it occurred it was usually fatal. Physical signs of lung involvement could practically always be detected where a careful examination was made. Evidence of intestinal involvement could nearly always be detected. Empyema often occurred. Since greater or less areas of pneumonia are found in all post mortem examinations it is incorrect to report some deaths as due to influenza and others as due to pneumonia.

Since the cause of influenza has not been discovered it is illogical to assume that any vaccine made from a combination of the accompanying organisms will have any value either in preventing the disease or of curing it after it has been acquired. The combined pneumococcus vaccine appears to have some value in secondary lesions due to pneumococci especially when type I is present. It is also logical to use this vaccine early in the hope of preventing a subsequent infection with the pneumococcus.

Droplet infection seems to be a very frequent means of transmitting the disease. Lynch and Cumming through their investigations have apparently shown that the hand is a more important factor in its distribution. This mode of transmission would naturally be of frequent occurrence where many people are closely associated with one another as in camps and barracks and in institutions. Droplet infection is probably of greater importance in introducing the disease into a locality where it has not previously occurred.

Of the many methods employed to prevent the spread of the disease some are of value. There is no good evidence to show that the closing of schools had the slightest effect in checking its spread. In the larger communities where school inspection has been installed many cases may be discovered and promptly isolated. In Chicago where the schools were not closed the incidence of influenza was no greater than it was in other large cities where the schools were closed. The mask as a means of preventing infection is of doubtful value. Many assert that the mask is an effective protection but do not give any accurate figures upon which to base a conclusion. The mask apparently does not increase the spread of the disease and since it may possibly prevent some infections it may be tried. To put absolute faith in it is injudicious. In treatment nothing of a specific nature has as yet been found. Complete isolation of the individual with the disease is the only positive procedure in prevention.

Dizziness From Ocular Disturbances.

Henry B. Lemere, M. D., Omaha.

Disturbances of equilibrium may come from derangement of either the eyes, the labyrinth, or the muscular and joint sense. These disturbances may be so profound that they produce complete prostration, with nausea and vomiting, or they may be so slight, that there is only a slight giddiness or dizziness complained of.

The dramatic reactions following the turning tests on the Baranay chair have directed attention universally to the profound dizziness resulting from disturbances of the labyrinth. While however clinically, labyrinthine dizziness is not uncommon, the great majority of cases in which there is slight or moderate dizziness are caused by one of the numerous eye anomolies. The oculist is consulted every day by patients complaining of a varying amount of dizziness. Three simple tests will show the importance of the ocular function in maintaining equilibrium.

When standing with the feet close together equilibrium is more difficult to maintain on account of the smallness of the point of rest. With the eyes open the three factors just mentioned for maintaining equilibrium are in force, the eyes, the labyrinth, the muscle sense. In locomotor ataxia the muscle sense is destroyed, so that we have only the eyes and the labyrinth functionating to maintain the posture, still the man is able to stand. If the eyes are now excluded by closing, the man sways and will fall. This is the Rhomberg test. It clearly demonstrates that the labyrinth alone is unable to maintain the posture. It would be of interest if a person with a dead labyrinth and also with locomotor ataxia were tested. Could he maintain his posture simply with his ocular function—his labyrinth and his muscular sense being lost.

Our idea of the perpendicular to the earth's surface is an important element in enabling us to maintain that perpendicular in our posture. If the head is leaned over on the shoulder and the eyes closed, and if now an attempt is made to idealize such a perpendicular line on the wall, say for instance a door post, the position of the post will be very vague until the eyes are opened, when the post seems to settle to the perpendicular from the vague situation it had in the mind before the eyes were opened. The position of picture frames or other uprights can still be judged with the eyes open even though the head is inclined to one side. With the eyes closed the muscular sense and the labyrinth are unable to give us our idea of upright until we open our eyes, therefore with the body stationary the ocular sense would seem to be the main factor in determining our relation to the perpendicular.

Finally on standing on a precipice with our muscular sense and labyrinthine intact, in looking down we lose sight of the objects by which we are able to judge our relation to the ground and with the change in the visual relations we become dizzy and lose our balance. With our ocular function disturbed the labyrinth and muscular sense may not be sufficient to maintain our equilibrium.

These three tests indicate to me, that in the stationary position of the body that the ocular function is the most important element in enabling us to maintain our equilibrium. In moving whether by active motion of the body or by passive riding or being turned on a moving carriage, the labyrinth takes a much more active part in maintaining equilibrium.

The term ocular function has been employed here advisedly, as this function is much more than visual impressions of scenes or objects. After the sudden paralysis or traumatic severence of one of the ocular muscles, dizziness and vertigo result, which are not caused by the diplopia alone as they persist when the uninjured eye is closed thus excluding the diplopia. The dizziness is then caused by the muscular sense of the ocular muscles as applied in directing the eyes toward any object.

As the ocular function is thus a compound of both visual and muscular impressions, we may consider first those disorders of refraction which are so prolific of the milder and moderate grades of dizziness.

All errors of refraction have the effect of distorting the shape and changing the size of the images on the retina except the errors are compensated for by the action of the ciliary muscle in accommodation. Excessive strain in accommodation and the faulty retinal image are probably the cause of the dizziness which is so often a symptom in these cases.

Unbalance of the eyes may be so pronounced that the eye turns in or out or it may be compensated for by the increased tone of the internal or external recti, and the eyes are held parallel. In either event there may be dizziness, resulting from the strain on the muscles or of the eye turns from the diplopia.

In the sudden complete or partial paralysis of any of the intrinsic muscles of the eye the most profound vertigo may result. In one case I saw, the pulley of the superior oblique had been destroyed in an operation for frontal sinusitis. The vertigo was so pronounced that the patient was prostrated for several days and was forced to keep his eye closed to get relief.

The cause of the vertigo in these cases is the excessive muscular stimulus which is thrown out in order to bring the eye in the field of the weakened muscle. The diplopia is only of secondary importance in the disturbance. A simple experiment will demonstrate these facts. If in any person one eye is displaced by inserting the finger on the lower lid and pressing the globe upward or to one side diplopia will be produced. If now while the eye is displaced the other eye is closed the diplopia disappears. But if an attempt is made to walk under the guidance of the displaced eye alone orientation is so confused that a staggering gait and dizziness results.

This sudden disturbance in the motility of one eye is comparable to the sudden destruction of one labyrinth and the similarity would be even greater, if there was a paralysis of all the muscles of one eye. Sudden blindness of one or both eyes does not disturb the muscle sense at all and therefore no vertigo results.

In conclusion I would reiterate that the three main factors in equilibrium are the ocular function, the labyrinth and the general muscle sense, that the ocular function consists of the locating of objects by means of the position of their image on the retina and also by the muscular sense of the intrinsic and the extrinsic eye muscles in focusing and in directing the eye, that this ocular function is the most important factor in maintaining the equilibrium of the body when stationary, and that the most frequent cause of ordinary dizziness in disturbance of this ocular function either reflexly from toxemia or primarily from refractive or muscular errors.

Aural Vertigo.

A. R. Knode, M. D., Omaha.

Equilibrium of the body is maintained chiefly by the internal ear and its associated pathways and centers known as the vestibular apparatus, aided by the sense of sight and by muscle sense.

Vertigo is a conscious sensation perceived within the brain when equilibration is interfered with by failure, from any cause, of the vestibular apparatus to perform its functions.

It seems proper, therefore, to refer to this static sense as the 7th special sense, inasmuch as its sole function is to maintain bodily balance; it has an end organ to receive stimuli; it has a conducting nerve to carry these sensations, and nerve tracts leading to various brain centers where stimuli are interpreted and translated into equilibration.

Vertigo is of two kinds. 1. Experimental or induced. 2. Vertigo from disease. Just as disturbance of the cochlea causes impaired hearing and tinnitus, so disturbance of the static portion of the labyrinth causes vertigo, mystagmus, etc.

Experimental vertigo therefore, is produced when the semi-circular canals are powerfully stimulated by artificial means, the chief of these being, turning in the Barany chair, irrigation of the ear with either hot or cold water or the application of an electric current to the mastoid. The responses to these various stimuli in the normal individual are absolutely constant and exact and thereby form a firm foundation for the use of the same tests in pathological conditions where the responses are absent, preverted or intensified, so that by noting these variations the localization of the diseased condition is greatly facilitated.

Movement of the head or body in any plane causes a movement of the endolymph in the semi-circular canals, which is recognized and interpreted by the brain as the evidence of such movement, and which is usually corroborated by the sight and muscle sense.

If, now, in a patient seated quietly with eyes closed, a similar movement of the endolymph is produced artificially, the brain interprets it as an actual change of position and vertigo is induced.

Vertigo from disease is a more complicated problem; it results from interference with perfect balance between the static organs on each side. Both labyrinths act in unison so that when disease destroys one side partially or completely, or produces an irritation of any part of the vestibular apparatus, there is immediately an inequality of stimuli from the two end organs resulting in vertigo.

Vertigo can only be produced by interference with the vestibular apparatus and its cranial pathways and is now recognized to be as distinctly an aural symptom as tinnitus.

Primary disease of the labyrinth produces vertigo when the vestibular apparatus is involved in an acute process. A very gradual destruction of function in one or both labyrinths can proceed to almost total loss of function without producing vertigo, by allowing the brain time to become adjusted to the condition.

Hemorrhage into the labyrinth is much more rare than was formerly believed and is not as frequent a cause of vertigo as embolus of the labyrinthine artery. This happens occasionally in caisson workers and, of course, causes the characteristic Meniere syndrome.

Syphilis in its secondary and tertiary stages as well as hereditary syphilis has a special predeliction for the eighth nerve and is often the cause of deafness as well as vertigo.

Neuritis of the eighth nerve from overdoses of quinin, tobacco, etc., may produce vertigo. In a similar way toxins liberated during the course of acute infectious fevers produce the same symptom. Also during an attack of acute rheumatism, vertigo is not uncommon.

A primary chronic degenerative process of the eighth nerve, independent of syphilis or the acute fevers, is the result of chronic focal infection elsewhere in the body and is a cause of both vertigo and tinnitus aurium.

Vertigo during the course of an acute or chronic middle ear supperation without actual extension into the labyrinth is of fairly frequent occurrance. A diagnosis in this situation would be established by evidence of granulation tissue, or pressure against the internal wall of the middle ear, by retention of some hearing, by normal vestibular reactions and a negative fistula test. These are transient irritations and are temporary and fleeting in character.

The labyrinth may be invaded by inflammatory processes by extension from the middle ear, from the blood stream, and from the meninges. Both serous and suppurative labyrinthitis produce similar types of vertigo and it is dependent on the presence of the disease in the vestibular portion of the internal ear. It is usually sudden and violent in character and continuous but gradually improves as the brain accommodates itself to the new condition. In the acute stage the vertigo is associated with spontaneous nystagmus and a sensation of rotation in the plane of nystagmus. The nystagmus after the first few hours is to the sound side. The vertigo is increased when patient looks in the direction of the quick nystagmic movement and lessened in looking the opposite direction.

During the latent stage, vertigo is produced by any sudden or unusual movement as walking down a flight of stairs or turning the head sharply to an acute angle. A patient should be forewarned in this condition so as to protect himself from harm. These attacks are not constant and indicate that the reeducation of the brain is not complete. Vertigo, then, from an aural viewpoint is a most important symptom which demands the closest investigation and with the great advances in our knowledge of internal ear conditions, is most helpful in diagnosis of pathological conditions.

Vertigo, Its Nature and Neurological Aspects.

G. A. Young, M. D., Omaha.

As the present symposium has to do with the symptoms of vertigo and its causation, it has seemed proper to the program committee that something should be said as to the essential nature of vertigo, and of the function whose disturbance produces the symptoms of vertigo.

Oppenheim describes vertigo as a feeling of discomfort arising from a disturbance of the relation of our body to space. Jones in his work on Equilibrium and Vertigo says that vertigo is a subjective sensation of a disturbed relationship of one's own body to surrounding objects in space. Hughings Jackson describes vertigo as a sensation of motor origin arising as a result of a discord between the impressions which come from the labyrinth, eye muscles, cerebellum and from other sources with which they coordinate and act in harmony.

The common factor in these three definitions lies in the consideration of vertigo as a disturbance of the relationship between the sense of posture in the individual and his environment and considered from this angle we find that vertigo is a disturbance of the function of posture, a disturbance which interferes with the maintenance of the body in a constant and uniform relationship to the three dimensions of space as found in any individual environment. Vertigo, of any description is a disturbance of the uniform balance of the individual posture with the position of external objects in space. The maintenance of this uniform balance is a function which develops very early in life and is practically complete before the third year of a child's life. The function is built up through the development of acquired reflexes that involve the whole brain and spinal cord and which, although we may assume that at first they are attended with conscious effort, later on, become habitual and automatic. That is to say that while at first the cerebral cortex is actively engaged in the development of these reflexes of maintaining the upright position and balance, that finally, the whole function is taken over by the basal ganglia, pons, cerebellum and spinal cord and becomes automatic.

In the development of these reflexes of posture three sets of afferent or sensory impressions are predominant. In the order of their importance they are the sensations from the vestibular apparatus, the visual sensations and the sensations from the muscles and joints, the so-called deep sensibility. While the visual impressions are of importance in giving the growing child knowledge of the position of the world round about him and of his own relationship to his surroundings. it is maintained that the eye has far more important functions to carry on than the sense of position and that the pre-eminent influence in giving to the individual a sense of his position and movement belongs to the vestibular labyrinth and its tracts.

Sherrington has illustrated this with the frog. If the whole of the spinal cord of the frog with the exception of the hinder part is destroyed, the frog maintains a certain set position of posture of the lower limbs whose reflex arcs remain intact. If the frog is turned over on its back he makes no effort to resume the upright position. If, however, the cerebrum be destroyed, involving the visual centers and leaving uninjured the vestibular labyrinth in connection with the pons and cerebellum, the frog maintains a fixed posture of squatting and if turned over on its back immediately resumes an upright position. We see here the maintenance of a normal posture dependent alone upon the vestibular connections plus the impressions from the various muscles and joints of the body.

The impressions from the muscles and joints which inform us of the position of our limbs, are divided into two sets, one of which goes to the cortex and becomes conscious and the second set which goes to the cerebellum as the sensory element of the cerebellar coordinating reflexes. This second set of sensory impressions or stimuli are unconscious. It is probable that while disturbance of the vestibular impulses causes acute vertigo and ocular defects such as muscular imbalance or astigmatism may cause distressing dizziness, the absence of vertigo with defects in the sense of position such as we find in tabes is due to the fact that the loss has to do with the limbs alone and in no way affects the head segment of the body. As long as the location of the all important head segment is preserved by means of the vestibular and ocular apparatus, we keep our sense of being right side up and no vertigo results.

We should not forget that one or both labyrinths may be destroyed and the resulting vertigo may disappear through compensation by the ocular function and it is possible that the deep sensibility as in case of blind deaf mutes may compensate for the loss of both ocular and vestigular impressions.

Vertigo or dizziness may include various degrees and kinds of sensations. It may vary from a sense of violent movement on the part of the body and surrounding objects such as we associate with Meniere's syndrome and cerebellar disease, to a slight and temporary feeling of uncertainty as to our position in space. Jones states that vertigo is always the result of a disturbance of the ear mechanism which includes the vestibular labyrinth and the central tracts which connect it to the spinal segment, to the eye nuclei, to the pons, cerebellum and cerebrum. As a general working rule vertigo associated with a false sense of movement of the body or of surrounding objects, rotary vertigo for example, depends upon a direct involvement of the semi-circular canals or its immediate connections in the posterior cranial fossa. Vertigo, with a sense of uncertainty of position is more apt to be caused by ocular defects or involvement of the cerebral pathways of the ear mechanism.

The special sense organ of position and movement is the labyrinth which is divided into two parts, the vestibule and the semicircular canals. In the vestibule there are two end organs known as maculae which lie in the frontal and sagital planes respectively. They detect straight movements in the antero-posterior, lateral and vertical directions or combinations of these and through their cerebellar connections coordinate movements of the body in these directions. The semicircular canals are three in each ear and detect rotary movements in the horizontal, anteroposterior, and transverse planes and combinations of these planes.

Vertigo as a false sense of movement of the body may be caused by an artificial stimulation of these end organs as by cold ear douche, or by turning in a chair, or by pathological stimulation of the end organs or their tracts by disease processes such as ear inflammation, vestibular neuritis, cerebellar tumor, etc.

Jones claims that vertigo is produced by five types of causes.

1. Disease of the labyrinth.
2. Disease of the central connecting tracts of the labyrinth.
3. Ocular disturbances affecting the central connections of the ear mechanism.
4. Cardio vascular affections affecting the ear mechanism.
5. Toxic factors influencing the ear mechanism.

Vertigo As a Neurologic Symptom.

From a neurological standpoint vertigo is an important symptom. It is particularly frequent in the following conditions: brain tumor, cerebro-spinal lues, cerebral arterio-sclerosis with vascular disturbances of the ponto-medullary-cerebellar mechanisms, multiple sclerosis, cerebellar-degenerations and psycho-neurotic syndromes associated with toxic states of uncertain origin.

Whenever one meets a protracted and progressive vertigo, one should always consider the possibility of brain tumor. Vertigo of ear origin tends to diminish in a few weeks and is most intense early, that of tumor is progressive. Marked vertigo suggests tumor of the posterior fossa of the cranium as tumor of the cerebrum rarely causes vertigo. The vertigo of cerebellar or ponto-cerebellar angle tumors is generally of a rotary type and is associated with a tendency to fall to one side or the other, generally the side of the tumor. It frequently is accompanied with nausea and nystagmus. The nystagmus of posterior fossa tumors differs from that of nystagmus of ear origin in that it frequently is coarse and sluggish when the eyes are turned to the side of the tumor and more normally rapid when turned to the unaffected side. A vertical nystagmus always means central disease as distinct from labyrinthine disease.

The diagnosis of the location of the tumor, what side it is on, whether it affects the cerebellar cortex alone, the central nuclei of the cerebellum, the pons, the mid-brain or the ponto-cerebellar angle may often be made with accuracy by means of the Barany turning and caloric tests.

Frequent attacks of dizziness or vertigo in subjects of from 30 to 50 years of age without signs of tumor or ear disease should always suggest cerebral lues and calls for a lumbar puncture and a spinal fluid cell count and Wassermann. After the age of 50, recurring attacks of dizziness suggest strongly arterio-sclerosis of the cerebral vessels, high blood pressure and an imminent cerebral hemorrhage or it may signal the approach of a cerebral thrombosis. According to the individual indications rest and quiet in the first and stimulation in the latter are urgently required.

Multiple sclerosis and cerebellar degenerations are not infrequently associated with severe vertigo. A case recently seen by me of progressive vertigo, severe headache and vomiting went to autopsy with a diagnosis of cerebellar tumor. No tumor was found and the cerebellum and pons were microscopically normal. The microscopic findings have not yet been determined but undoubtedly belong to an acute degenerative process in the cerebellum.

Vertigo is often a troublesome symptom in the psycho-neuroses and neurasthenic syndromes. At times it seems to be of a true vestibular origin with subjective and objective rotation, swaying and sinking sensations. In these cases, I believe it to be caused immediately by toxic states which themselves are due to the neurotic state of the patients. This is stated on the ground that in certain cases vertigo of years standing has been relieved when the psycho-neurosis has been cured by appropriate psychotherapy. In other hysteric and neurasthenic states the condition is not a true vertigo but develops through intense self-absorption and a neurotic fear of falling. Oppenheim states that almost anyone can develop a sense of vertigo by concentrating the attention on the ideas of swaying and falling. The treatment of these cases should be predominently psychotherapeutic.

The presence of petit-mal attacks of epilepsy are often confused with transitory vertigoes and the distinction should be carefully made. The presence of a true clouding of consciousness, the set or blank expression of face, the arrest of thought and the history of a major seizure serve to make the diagnosis.

Toxic neuritis of the vestibular nerve due gastro-intestinal affections, alcoholism or tobacco poisoning and degenerations of the vestibular and cochlear neurones such as may be found in certain adrenal insufficiencies, may be responsible for severe vertigo and vomiting. Proper elimination in the one and administration of adrenalin hypodermatically in the other frequently bring prompt relief.

Cardio-Vascular Vertigoes.

A. Sachs, M. D., Omaha.

The subject of vertigo is an important one, and is of interest to all branches of medicine. Its definitions are many, but the best description is given by Hughlings Jackson, who describes vertigo as a sensation of motor origin, the result of a discord between the impressions which come from the labyrinth, the cerebellum, eye muscles and from other sources, with which they coordinate or act in harmony.

Vertigo may be subjective or objective. Objective vertigo is the apparent motion of motionless objects, while in subjective vertigo, the body appears to be moving about surrounding fixed objects.

The equilibrium of the body is maintained by the coordinated action of various groups of muscles, and the nervous mechanism for this coordination is situated in the cerebellum. Afferent impulses are brought to the cerebellar centers from the muscles, skin, joints, eyes, and the semi-circular canals. The cerebellum is also connected with the motor centers of the cerebral hemispheres, and thus the requisite contractions of the necessary muscles are insured. Disturbances of equilibrium are therefore the result of a lesion in the cerebellum itself, or in one of the afferent tracts, hence all vertigoes are essentially cerebellar.

When a patient comes in complaining of vertigo, the following types are mainly to be thought of: Labyrinthian, ocular, those due to intra-cranial lesions, cardio-vascular and gastro-intestinal vertigoes (toxic). Some men claim that ninety per cent of all true vertigoes are labyrinthian. The ocular vertigoes are next, and third, are those due to intracranial lesions. Whenever central lesions are thought of, ones attention is immediately drawn to the posterior fossa, which is always affected directly or indirectly.

The cardio-vascular and gastro-intestinal types are what we might classify as secondary vertigoes, for they are produced only through their effect on one of the first three mentioned. The terms vertigo, dizziness and giddiness are all used interchangeably by most men. I would prefer to confine vertigo, to definite, severe attacks, dizziness to milder types, and giddiness to still milder types.

My colleagues who have preceded me in this symposium, have discussed the labyrinthian, ocular and central vertigoes, and the one assigned to me has been the cardio-vascular type.

There are many cardio-vascular lesions which can produce dizziness, but comparatively few that cause definite attacks of vertigo. When discussing cardio-vascular vertigoes, we must first of all discuss the arrythmias. According to the classification of Lewis, there are six types of arrythmias; sinus arrythmia, heart block, premature contractions, paroxysmal tachycardia, auricular fibrilation, and alternation of the pulse.

The heart has a definite conduction path passing from auricle to ventricle, and having its origin in the sino-auricular node. The main portion of this path is the bundle of His. and a lesion in this bundle gives rise to that familiar symptom complex, known as Stokes-Adams disease, or heart block.

Heart block may give rise to severe cerebral attacks, and one of the predominant features is vertigo. The cerebral attacks are due to anemia of the brain or medulla, from an imperfect ventricular action. This then, may be looked upon as a secondary vertigo, having as its fundamental factor, a cerebral anemia. Any other disease or condition which will cause a cerebral anemia may also produce a vertigo.

Paroxysmal tachycardia also occurs in definite attacks, starting suddenly and often ending suddenly. The pulse rapidly increases to 130 or 140 per minute, and one of the distressing symptoms may be a vertigo. This vertigo may in reality be a sensation of nausea which is misinterpreted by the patient, and called dizziness. The attacks may vary from a few seconds to several days. and the vertigo, if present, may be due to a cerebral anemia.

Any of the other forms of arrythmias may also produce attacks of dizziness, and the causative factor is the same, that is, a cerebral anemia.

Pericarditis, myocarditis and endocarditis, can all produce various grades of decompensation. I wish to mention myocarditis especially, for these cases frequently complain of dizziness. If we have a myocardial degeneration, involving the bundle of His, we may get a partial or complete heart block, and this has already been referred to. Any lesion that produces a decompensation may produce a cerebral anemia, or oedema, and hence may produce vertigo.

Cardio-vascular lesions may also produce vertigo by causing an ischemia or hyperemia, or any part of the ear mechanism, either within the internal ear itself, or its intracranial pathways, or in its associated cerebral centers. They may have the same local effect on the ocular mechanism and in this way, produce a vertigo.

Vagus irritations, whether from pressure or otherwise, may produce dizziness by its effect on the heart or general circulation. Any toxic product such as nicotine, or focal infections, may produce a vertigo, by its toxic action on the heart itself, or by its direct action on the eighth nerve. The anemias, through effect on the heart or general circulation, often cause vertigo. They also may produce it by their tendency to produce hemorrhage, which may be local in the ear, eye or in the brain.

Cases with hypertension may frequently complain of dizziness. This, however, is again the result of altered cerebral circulation. Hypotension, such as we get in Addisons disease, may cause vertigo. This may be the result of cerebral anemia, but in recent years, our ear men have taught us that an adrenal insufficiency, by its direct effect on the ear, or its nerve supply, may produce a vertigo. This form of vertigo, responds readily to treatment with adrenalin.

Patients suffering from an angina pectoris, may have vertigo, but frequently the pain is so acute that a sensation of nausea occurs, and this may be misinterpreted by our patients as a vertigo. A cerebral or peripheral arterio-sclerosis (affecting the ear or eye), may produce vertigo. Aneurisms of the larger vessels, through their effect on the general circulation, or by pressure on the larger nerve trunks, may produce vertigo. The subject of embolisms has been discussed by my other colleagues, and hence can be omitted here.

It is impossible in the short space of time allotted me, to deal with cardio-vascular lesions in detail, hence I have merely tried to

teria. The even flow of material from the stomach to the anus is disturbed by making some parts of the bowel weaker than normal and thus more irritable. Thus purgatives cause flatulence and disturbance, and when the bowels move frequently during the night, loss of sleep results. This is especially trying for a patient wearing a large cast or with a broken leg or other painful lesion, which causes suffering when the patient moves. Should there be intestinal obstruction a gangrenous appendix or badly diseased Meckel's diverticulum, or adhesions forming around pus, purgation may directly cause death. Purgation causes the bowel to react so poorly to drugs that after operation it may be difficult to meet postoperative emergencies. When the bowels have been emptied by starvation and purgation it is difficult for the colon to resume its normal activity; it must be filled and distended to a certain extent before it will empty itself of its contant poisons which must be removed quickly from the body; this interferes with intestinal absorption and upsets the balance of salts, both cause pathological conditions and weaken the body. The dehydration of the body and the disturbance of the balance in salt is known to be bad, especially before an operation, after which there may be hemorrhage and vomiting. When magnesium sulphate is given there may be an increased amount of fluid in the bowel which greatly complicates any operation upon the intestines. In operations upon the colon liquid contents are much harder to control than solid masses. When purgatives act there is an increase of bacteria in liquid feces and increase of bacteria in absorption of toxins, and more bacteria are absorbed through the mucous membrane. Undigested food may be carried into the colon to supply increased food for bac-
give a general survey of the whole subject. In closing, I would like to impress one thing, and that is, not to look upon vertigo too lightly. We are all apt to dismiss our patients with a cathartic, saying "you are bilious," or with a few strychnia tablets for a poor circulation, and thus many mistakes are made.

Is the Purgation of Patients Just Before Operation Justifiable?

(American Journal of Medical Sciences, Jan. 1919)

Alverez (Surg. Gynec. and Obst., June, 1918) states that some purgatives are irritents. Children and nervous women sometimes begin vomiting during the night before the operation showing that the purgative which has been given causes the beginning of the trouble, and etherization usually causes it to become active. The suggestion is made that food be given as late as possible before the operation that only enemas be used, before operation and that these be avoided if not absolutely necessary. That water and solid food be given by mouth as soon after operation as possible and that purgatives be avoided both before and after operation whenever this can be done.

Acute Respiratory Diseases Among Troops, With Special Reference to Empyema.

(American Journal of Medical Sciences, Feb. 1919)

Beals, Zimmerman and Marlow (Jr. Infect. Dis., 1918, xxiii, 475) report their findings from a study of acute respiratory diseases occurring among troops from September 25, 1917, to June 1, 1918. Out of a total of 9691 admissions to a base hospital, 4443 were cases of acute respiratory infections. The cases occurred in waves with the greatest severity at the crest of each wave. During a period of three months there were 333 cases of measles (including rubella) only three cases having complications, otitis media in each instance. Later when respiratory infections developed, there were not only many cases of pneumonia and empyema, but the cases of measles, though not greatly increased in number, showed severe complications of a respiratory infection, usually streptococcic in origin. Empyema, pneumonia, tonsillitis, otitis media and severe bronchitis were found accompanying measles. The mortality was high, 61.5 per cent, in cases of empyema following measles. When empyema complicated pneumonia the mortality was 38.2 per cent and in twenty-two cases of primary empyema death occurred in five cases, or 22.7 per cent. The authors note four distinct types of empyema—fibrinous, serofibrinous, serofibrinopurulent and purulent. The authors found that for a variable period of about a week there was a serofibrinopurulent exudate, and at autopsy there was often found a serofibrinopurulent exudate in one pleural cavity and a fibrinous or serofibrinous in the other. In the majority of cases a streptococcus, usually hemolytic, was the causative agent. The clinical manifestations include rapid and profound toxemia, the rapid formation of, in most cases, a large amount of pleural exudate and a tendency to pocket formation by old and new adhesions in atypical locations. The most marked autopsy findings were the presence of wide spread lesion involving serous membranes, severe bronchitis, in the majority of cases, and a type of bronchopneumonia often closely resembling a lobar process. The authors note the importance of an early recognition of empyema, especially in the acute fulminant type of cases. Diagnosis, they state, depends on close attention to clinical progress and proper interpretation of the physical signs. Control of such epidemics depends on sanitation of the barracks, with adequate space and proper separation, especially of those even slightly affected with respiratory diseases.

Postgraduate Teaching After the War.

The crimes committed by the Central Powers during the war have by no means been merely the acts of governments but have been zealously carried out by their soldiers and applauded by their peoples. They have never been repudiated by any class, even by scientists of international reputation, and the medical profession has been guilty of shocking inhumanity to prisoners. Both in this country and in France, leading scientific men have stated that they cannot cooperate with men in enemy countries for some years, and the same feeling prevails in the medical profession. It is therefore likely that the position occupied by Berlin and Vienna as centers of postgraduate instruction will be lost. Professor Adami has expressed the view that Paris will probably become the chief center of postgraduate instruction in Europe, as the French were making every endeavor to achieve this. While in England no one will grudge our gallant allies any success, but on the contrary every one will rejoice in it, much dissatisfaction is felt that no organized attempt is being made to advance the claims of London. The fundamental difficulty is that, excepting ophthalmology and neurology, there is no centralization of medical teaching such as exists in the enemy capitals, and facilities are organized almost entirely for the teaching of students. The difficulty appears to be insuperable. London, it has been said, is not a city but a monster—a conglomeration of many districts equal to cities. As is characteristic of English institutions, the hospitals are the result of private effort and not of government organization. Each of the dozen great London general hospitals with teaching schools attached has grown up and is maintained by private beneficence. Each is a complete medical school devoted to the instruction of students, and is as independent of all others as if they were hundreds of miles away. Scattered through these medical schools are the men whose names are famous throughout the world, but nowhere are they brought to a focus. The foreign graduate who comes here interested in some specialty cannot find any central institution where he can follow all that has been done in that particular line. Even the special hospitals are multiple. There is no university in London devoted to medical teaching, such as centralizes the medical teaching of Edinburgh and has long given that city a leading position among the medical schools of the empire. Attempts have been made from time to time to organize postgraduate teaching in London, but with little success. The last attempt, the Polyclinic, did good service for a few year years, but was always in financial difficulties. These were so accentuated by the war that it had to close its doors.

(Taken from London Letter, J. A. M. A., Jan. 25, 1919).

Absorption of Drugs and Poisons Through the Vagina.

(American Journal of Medical Sciences, Jan. 1919)

As a war time contribution which may assist in lowering of both maternal and infant mortality, Macht (Jour. Phar. and Exp. Therap., 1918, p 509) has been carrying on a series of investigations in the pharmacological laboratory at Johns Hopkins University on the absorption of drugs and poisons through the vagina and has reached the following conclusions: (1) It has been shown that a large number of drugs and poisons-alkaloids, inorganic salts, esters and antiseptics—can be and are easily absorbed through the vaginal wall. (2) Such absorption can be demonstrated experimentally by physiological and chemical means. (3) A review of the clinical and toxicological literature shows that poisoning through the vagina, of a grave character, is not very rare. (4) The experiments indicate, on the one hand, the possibility of administering drugs therapeutically for their constitutional effects, through the vaginal route; and on the other hand, emphasizes the great danger of the indiscriminate employment of various poisonous substances in the form of douches, tampons, "uterine wafers," etc. The investigations were carried out upon cats and dogs. In some cases the substances were identified by chemical means after their absorption, in some the pharmacodynamic and toxicological effects were taken as proof of the action of the substances upon the body, and in other cases, both physiological and chemical evidence could be obtained.

Status Epilepticus in Pregnancy.

(American Journal of Medical Sciences, Jan. 1919)

Tomasilli (Annali Di Obstetricia, 1917, No. 41, p. 135) writes concerning the resemblance between epilepsy and eclampsia. He describes the case of a patient, aged twenty-five years, five months pregnant, admitted to the hospital under the suspicion that she had eclampsia. On obtaining the history it was found that she had previously had convulsions. The patient had eleven typical convulsions during the first twenty-eight hours after entering the hospital, and these, with the history and negative results in examination of the urine, made the diagnosis of epilepsy probable. The patient was kept in bed and treated by the free use of bromide, with the result that the convulsions ceased and the patient went to term and was delivered normally. As a rule, pregnancy does not increase the severity of epilsepsy, but, on the contrary, epileptic women are sometimes better in health during pregnancy. The differential diagnosis is obtained upon a thorough and careful examination of the urine and an accurate history of the patient.

Dangers of Pituitrin.

(American Journal of Medical Sciences, Jan. 1919)

Marchand (Bull. Med. Assn., of Puerto Rico, San Juan, March, 1918, No. 118, p. 14) states that midwives have learned the action of pituitrin and often use it indiscriminately; severe lacerations are caused and one case is described in which four injections had been given; when the physician was summoned the patient was moribund, lying in a pool of blood, with the inverted uterus entirely expelled from the body. A similar condition was present in another case, but the uterus was reduced, which was followed by violent bleeding. This patient, a primipara, had received three injections when dilation had scarcely begun.

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Renewing Our Organized Efforts.

During the war many county societies abandoned regular meetings. In some counties having a county society prior to 1917, there were not five available members left at home to maintain a county organization. Our members are returning better equipped for aggressive work then when they entered M. R. C. service. They appreciate more than ever the benefit of organized effort. Their spirit of fraternalism has been strengthened. A desire for constructive work on established laws of medical practice and sanitation by cooperation in local, state and national work under federal laws is the slogan of the day. The county society as our unit for medical organization is a prime necessity. Now is the time to put into action our possibilities as a constructive body of men. An educational propaganda to arouse public interest in maintaining a competent full time health officer in every county or councilor district is possible. Our national medical federation has adequately planned for such coordinate action. The physician trained in making sanitary the camp environment of soldiers has the knowledge and pedagogic facilities to instruct a democratic people on the benefits obtained in obeying organized sanitary laws. Those who have not been taught the simple natural laws of proper living cannot under democratic institutions be coerced by civil laws to adopt cleanliness, even for their own good. Money spent in compromise legislation necessitates added expense for a police force in compelling its observance. The financial outlay for a wisely planned educational campaign initiated in the county society (the unit of our national association) would establish the local and only permanent basis for the enactment and observance of better sanitary and medical laws.

Why Attend Our Annual Association Meeting?

Because it is essential to progress in medical knowledge. We need it for exchanging views on our methods of caring for the sick. At our last annual meeting the absence of many of our most progressive men was noticeable. They were serving our country in helping to win the war. These members through military service have gained experience, and had close contact with some of the world's foremost medical men. They have messages well worth our hearing. It is thought to be in keeping with the occasion to make all scientific sessions general meetings. The presentation of five to seven papers at each session and their discussions will fill the program. Our committee are alert in selecting the best qualified men to present this scientific program. This will be an epoch meeting in our history.

Equal Honor to All.

Much is written and liberal preparations are being made for great triumphal receptions to our boys who return from overseas service, while no such elaborate provision is being made for honoring our boys who are being demobilized from training camps on American soil. With loud acclaim we evidence the spirit of glorifying the men who fought far away, and we neglect the equally brave men who were eager to go. Many of them were fully prepared, even posssed superior educational and administrative ability over some who were early off for "overseas." This seems to the youthful mind, and ambitious parent unjust partiality, indeed written protests and personal interviews condemn military reasons as unjust and wrong. Everywhere we hear the story of disappointment on the part of men who did not get to serve on foreign soil. In some cases where men of distinguished ability as executive officers, unexcelled accuracy as teachers of artillery fire, expert drill masters, and teachers of unusual promise, were denied the privilege of joining comrades on French soil in actual combat, their disappointment was almost tragic. These men were kept here because they were too efficient to be spared for action on the firing line; they were chosen to train other men who needed army discipline before assuming the role of actual combatants in a life and death struggle. Had it not been for the splendid efforts of these instructors in preparing raw recruits, our boys would have met needless disaster.

Our military leaders well understood the unpreparedness of our nation for joining in battle with a barberous horde of soldiers trained from infancy to kill or maim all who opposed their selfish designs. They chose our best men as teachers who could and did heroic service in equipping our young, strong, athletic boys in the coordinate use of their physical powers against the malicious onslaughts of German hostility. Shall men who endured many long months in daily instruction of new recruits for filling the ranks in the depleted lines of French and British armies ere they were crushed by overwhelming numbers of the enemy, be accorded less honor than we acclaim for the physical endurance and bodily scars attesting their success on the field of combat? Shall the teachers of our boys who fought so valiantly and won, be left in comparative obscurity? Is the nation's gratitude to be withheld from these, while the men who had no such disappointment and who no more than these offered their lives for their country, be feasted, feted and applauded? They suffered the keen disappointment of their hopes that they might be allowed to fight in France for the nobler service of character building in the great and invincible army of American boys whose courage and endurance won the war. They carried convication to the German brain that American military authorities could train Yankee boys to efficiency in warfare, far in advance of the mechanical obedience of German soldiers. These teachers prepared our boys who carried the truth to the military brain that America could and would fight. Our men who served "overseas" deserve their share of honor and the luster of their accomplishment will not be tarnished in joining with those who were kept at their posts of duty on the home field in loyal service to our country.

The Future of Ex-Medical Officers.

The rehabitation of general practitioners, who entered the army as medical officers, presents a problem of considerable interest. Many of these men with a widened horizon and some special training will be loath to return to the restricted field formerly occupied by them while the spirit of discontent will actuate others to seek different fields. Rumors sifting through direct and indirect channels lead one to believe that many will seek wider fields in the larger cities as general practitioners and in the specialties. A limited number will no doubt succeed in establishing themselves in the larger centers as general practitioners and specialists; but it seems equally certain that the majority thus actuated will be doomed to disappointment. The writer is convinced, that with few exceptions, doctors discharged from the medical corps will do well to return to their former fields of labor. If Army service has afforded some special training and has fitted the medical man to do better work or work of a special character, the home community can be made to benefit by this added skill and will undoubtedly readily reciprocate. The tendency of the times is undoubtedly toward the development of medical centers in the smaller cities and towns. Small hospitals, small centers for surgery and eye, ear and nose and throat work are springing up, as they should, in the smaller cities, and will continue to do so. Rochester and the Mayos is a direct contradiction to the proposition that medical and surgical centers can exist in large cities only. The city does not make the man—the Mayos made Rochester.

It seems clear then that the doctor who will return to his former field and by his inherent force and added wisdom enlarge his sphere of usefulness will meet with greater success than he had deemed possible.

F. A. L.

Upland, Neb., Feb. 6th, 1919.

Editor Nebraska State Medical Journal,
Norfolk, Nebraska.

Dear Sir:

In these times of high prices there is a matter of interest to many medical men in Nebraska that seems to have escaped public discussion to date. This matter is the price paid for making old line insurance examinations.

Why is it that the Elkhorn of your city can afford to pay the doctor $5.00 for an examination when all he can get from the Banker's Life is $3.00? Fifteen years ago I received $3.50 each for insurance examinations for the Banker's Life. Today they pay me $3.00. Is it such a great honor to examine for a $3.00 company? Almost all Nebraska companies pay $3.00 while all of the leading companies outside of the state pay $5.00.

I would like to hear from the members of the Association in regard to this matter and would suggest the appointment of a committee at the next state convention to wait upon the state insurance companies and ask them to make their examination rate conform with the rate of all outside progressive companies.

If the doctors who are examining for these $3.00 companies will resign as examiners the rate will be boosted in a very short time. To prove my sincerity I refuse to make any old line examination in the future for less than $5.00.

Hoping to hear from others before the State Convention, I remain,

Yours very truly,
Norman T. Johnson, M. D.

Notice.

The Omaha Roentgen Ray Society is going to hold a meeting at Fontenelle Hotel, Omaha, Nebraska, on Saturday, March 29th, 1919. Several prominent men will be on the program.

A. P. Overgaard, President.
W. L. Ross, Secretary.

COUNTY SOCIETY NOTES.

The officers for 1919 for the Box Butte County Medical Society are H. A. Copsey, president; Geo. Hand, vice president; C. E. Hershman, secretary-treasurer. Up to date eight members have paid their current dues.

Six members of the Franklin County Medical Society have paid their current dues.

Six members of the Fillmore County Medical Society have paid their current dues.

The officers for 1919 for the Red Willow County Medical Society are Z. L. Kay, president; J. E. Harthorn, vice president and C. L. Fahnestock, secretary-treasurer. Up to date nine members have paid their current dues.

The officers for 1919 for Madison County Medical Society are Frank Jensen, president; R. A. Foster, vice president; E. L. Brush, secretary-treasurer. Up to date twenty-four members have paid their current dues.

The officers for Butler County Medical Society for 1919 are C. E. Palmer, president; J. G. Marron, vice president; R. G. Rich, secretary-treasurer. Up to date twelve members have paid their current dues.

Doctors Meet.

Falls City, Feb. 3, 1919.—The Richardson County Medical Society met in regular session last evening at the Elks club rooms. The subject for discussion was influenza, which was thoroughly covered. Notes on the recent epidemic were compared and much interest was taken in the methods of treatment which have been the most successful. Following this the officers for 1919 were elected:

President, Dr. Lee Cowan; vice president, Dr. Gillispie; secretary-treasurer, Dr. C. P. Fordyce. Delegate to the state association, Dr. S. D. Cowan. Censor, Dr. J. A. Waggoner, Humboldt.

The society voted to pay the dues as a mark of honor for members who are in Army Service. Those present were, Drs. Hays, Gillispie, C. T. Burchard, Lee Cowan, Fouts, S. T. Cowan, Hustead, Reneker, Greene, Fordyce and Doran.

The society plan to meet on the first Wednesday of each month at 7:30 p. m., and all members will appear on the program during the year.

Dr. C. P. Fordyce, Secretary.

Orders to Nebraska Officers of the M. C., U. S. A.

February 1.

To Camp Gordon, Ga., to examine the command for nervous and mental diseases, from Camp MacArthur, Capt. B. F. Williams, Lincoln.

February 8.

To Army Medical School, from Camp Dix, Capt. A. D. Munger, Lincoln.

To Camp Travis, Texas, from Fort Sill, Capt. C. Minnick, Curtis.

February 15.

To Camp Dodge, Iowa, base hospital, from Fort Snelling, Lieut. R. L. Ivins, Crawford.

To Chicago Ill., from Camp Grant, Capt. C. L. Fahnestock, McCook.

To El Paso, Texas, from Camp Owen Bierne, Lieut. C. W. Parks, Lincoln.

To Fort Sheridan, Ill., from Camp Custer, Capt. D. C. Hilton, Lincoln.

To Jefferson Barracks, Mo., from St. Louis, Capt. F. C. Genung, Wausa.

To Oteen, N. C., from Camp Joseph E. Johnston, Capt. J. F. Allen, Omaha.

February 22.

To Camp Dodge, Iowa, as orthopedic surgeon, from Camp Zachary Taylor, Lieut. L. K. Strate, Hastings. Base hospital, from Fort Des Moines, Lieut. W. L. Wolcott, Omaha.

To Carlisle, Pa., from Camp Lee, Lieut. C. M. Hyland, Omaha.

To Walter Reed General Hospital, D. C., from Camp Travis, Lieut. J. D. McCarthy, Omaha.

Medical Officers U. S. Navy, Relieved From Active Duty.

P. M. McCrann, Omaha.

Honorable Discharges M. C., U. S. A.

Capt. H. W. Francis, Bancroft; Capt. F. E. Braucht, Coleridge; Capt. H. H. Culbertson, Fairbury; Capt. A. E. Buchanan, Fremont; Capt. C. D. Williams, Genoa; Capt. L. Stark, Hartington; Capt. F. A. LeMar, Humphrey; Capt. L. I. Bogen, Lincoln; Capt. A. E. Gadbois, Madison; Lieut. J. G. Muir, Milford; Lieut. J. B. Redfield, North Platte; Capt. H. E. Eggers, Omaha; Lieut. J. C. Follman, Omaha; Capt. J. Buis, Pender; Capt. R. S. Mitchell, Red Cloud; Capt. F. E. Nail, Riverton; Capt. S. E. Ragan, Seward; Lieut. J. M. Curtis, Tecumseh; Lieut. C. B. Coe, Wakefield; Capt. H. L. Starkey, Wood River; Capt. J. N. Plumb, York.

February 8.

Lieut. S. O. Pitts, Alda; Capt. C. C. Copeland, Beaver City; Lieut. W. E. Kelly, Belvidere; Lieut. T. Lahners, Jr., Belvidere; Capt. J. H. Mettlen, Bloomfield; Capt. W. J. Pinkerton, Bostwick; Lieut. W. H. Phillips, Carroll; Capt. F. H. Morrow, Columbus; Lieut. J. J. Srb, Dwight; Capt. J. S. Taylor, Fairbury; Capt. H. C. Smith, Franklin; Capt. R. T. Van Metre, Fremont; Capt. H. Davis, Genoa; Lieut. H. B. Boyden, Grand Island; Lieut. A. J. Bore, Hastings; Lieut. O. R. Platt, Hebron; Capt. W. H. Heine, Hooper; Lieut. G. A. Des Jardien, Lincoln; Lieut. R. L. Smith, Lincoln; Capt. R. Scudder, Malmo; Lieut. S. C. Clements, Neligh; Lieut. A. H. Sissakian, Niobrara; Lieut. W. E. Doane, North Bend; Capt. G. W. Earle, Oakdale; Capt. H. E. Eggers, Omaha; Capt. J. Holst, Jr., Omaha; Capt. N. C. Prince, Omaha; Capt. H. C. Sumney, Omaha; Capt. G. A. Young, Ponca; Lieut. F. G. Kolouch, Schuyler; Lieut. F. W. Plehn, Scottsbluff; Capt. T. J. Jones, St. Edwards; Lieut. J. I. Limburg, Walthill; Lieut. L. B. Lake, Wausa; Lieut. E. V. Neumann, Wausa; Lieut. V. S. Simon, Winside; Lieut. J. S. Bell, York.

February 15.

Capt. H. A. Copsey, Alliance; Lieut. C. D. Hustead, Aurora; Lieut. E. A. Picken, Benkelman; Lieut. S. D. Cowan, Falls City; Capt. G. H. Rathbun, Fremont; Lieut. W. H. Crutcher, Lincoln; Capt. I. S. Cutter, Omaha; Lieut. O. P. Schnetzky, Schuyler; Lieut. E. G. Kieck, Springfield.

February 22.

Capt. W. S. Evans, Columbus; Capt. J. G. W. Westerhoff, Carleton; Lieut. A. A. Ashby, Fairmont; Lieut. J. C. Hickman, Geneva; Lieut. P. D. Kelly, Nemaha.

MARRIAGES.

Dr. David Isaacs of Omaha and Miss Grace Doolittle were married February 11th at the home of the bride's parents. Following an eastern trip Dr. and Mrs. Isaacs will make their home in Dundee.

STATE NOTES.

Dr. C. A. Boyd, of Scottsbluff, is retiring after thirty-eight years of active practice and is going to California.

Dr. F. L. Frink, Newman Grove, Neb., late Captain in the Medical Corps stationed at Camp Custer, Michigan, has resumed practice at the old stand and is busier than ever before.

Dr. H. R. Carson, formerly assistant physician at the Norfolk Hospital for the Insane, and more recently a Captain in the Medical Corps and attached to the psychiatric unit, has been appointed clinical director of the Louisiana State Hospital at Alexandria.

Dr. B. R. McGrath, Grand Island, returned from overseas service early in February, and has resumed practice. He was a Captain in the Medical Corps, attached to Base Hospital No. 116, and has had eighteen months of service, ten of which were in France.

CASE REPORT.

Polyhydramnios in Mother, Hematemesis in Infant, Absence of Pyloris in Infant, Rupture of Stomach in Field of Multiple Ulceration.

Daisy M. Hanson, M. D., Lincoln.

Mrs. W. B. is an American, 45 years old, and a housewife. She had two healthy children 18 and 16 years old. When she began to skip menses for the present pregnancy, she thought it the beginning of the menopause. When first seen, one month before labor, the abdominal distention was extreme and the patient very wretched. Could hardly stand, sit, lie or sleep. The abdominal wall was so distended with fluid that it looked translucent, the veins over it were much enlarged, and it had the tense, elastic "feel" of an overfull hot water bag. One could occasionally feel a floating foetal part, and the mother sometimes felt feeble movements. It was impossible to determine presentation or position, or to hear the foetal heart. The feet and ankles were slightly swollen during the day, but this disappeared in the night. The urine was always normal.

The patient was very much emaciated, and had lost a sister and a brother with tuberculosis. Slightly over a year ago she had weighed 115 lbs., now estimates her weight at 85 lbs., and thinks she began to lose before the excessive abdominal distention. She had grippe and pneumonia in November, 1917, and while she had regained most of her flesh before the pregnancy started, she never got strong again. Sweeping one room exhausted her. There were no cough, P. M. temperature, or night sweats at that time, and no dullness or rales over the chest now.

Labor came on just one week before the expected date. The patient called saying that the waters had broken and she felt relieved. She thought she had lost two quarts of water, but this must have been between the membranes, for the membranes seemed intact and the distention was still extreme. The os showed two fingers dilation, and the pain was extreme but constant. The uterus seemed unable to contract because of the over distention. The cervix was finally dilated manually, and the membranes pierced by a small hole, hoping to let the waters escape slowly. They came with a gush instead, soaked the bed, and thirteen quarts were collected and measured. Five or six chunks of vernix caseosa half as large as the fist, and as hard as a dry crust of cheese came rattling into the bucket. No fainting or collapse followed the sudden change in abdominal pressure. The fundus was held firm, and massaged at about five minute intervals to stimulate pains. About six hours later a 7 lb. child was delivered spontaneously, R. O. A.

The child immediately made respiratory efforts, though it would not cry vigorously. It was well formed, and seemed normal in every way. The vernix on the child also was as hard as if dried or baked. The mother had a severe post partum hemorrhage, and efforts to express the placenta by the Crede method failed. It was removed manually and found densely adherent in the upper uterus. The cord was of normal size and central implantation. The mother's relief was marked. She had few after-pains, went to sleep promptly, and has done well for her first two weeks.

The nurse called after about twenty hours because the child was vomiting bright blood in large amounts. It had vomited "black stuff"—probably changed blood which she had not recognized—several times in the night. The baby was pale, limp and cold. The heart and lungs seemed normal. The child would gag or strain, then the blood pour from the mouth. There were some fair sized clots. The bladder and bowel had not emptied yet, but a warm compress over the vulva brought a prompt evacuation of dark, reddish urine, and a small enema brought a large passage of hard meconium both noon and evening. There were no purpuric spots and no abdominal distention at noon, but the latter was plain by evening. Hemophilia and purpura could be ruled out of the diagnosis. Stomach ulcer or obstruction seemed possible. A Wasserman was not made. It was decided to try the hypodermic injection of human blood serum or a transfusion, and Dr. Welch was called on the case.

J. S. Welch, M. D., Lincoln.

On January 13th Dr. Hansen asked me to see Baby B., a child twenty-four hours old, with bloody emesis. Approximately four or five ounces of nearly pure blood had been vomited. Meconium was passed prior to this and after the first vomiting. Blood was aspirated from the longitudinal sinus through the anterior foramen, and the coagulation time seemed slow, although exact tests were not made. It approximated 22 to 25 minutes. The father donated blood, from which serum was separated and injected at intervals of about two hours, eight to ten c. c. m. at a time. About ten hours after the first serum was given, 15 c. c. m. of blood was transfused through this sinus by the direct syringe method. There was a noticeable change in the color of the cheeks, lips and fingers. The volume of the pulse increased slightly. The child's condition failed lastingly, however, to improve, and it died about four hours later.

An autopsy was held, and the organs here presented showed an hour-glass stomach containing about 1½ teacupfuls of coagulated blood, with a rupture near the lesser curvature at the cardiac end. This rupture is about ¾ inch to one inch in diameter, and a clot of coagulated blood protruded. This rupture occurred in a field of pin-head-sized ulcers. There were 20 of these counted by the naked eye. They had a gray base and red circular zone about their margins. The hour-glass is about 1½ inches from the pyloric end and about ¾ inch wide. It is very sclerotic. There is a complete absence of the pyloric opening, with a space of ¾ inch where no trace of duodenum can be found. The distal portion of the duodenum has at its beginning the entrance of the bile ducts, and there was bile in the duodenum. In the apex of the right lung two small shot-sized emboli were found. There was a tiny embolus in the right kidney.

Six Million is Value of State Institutions.

An inventory of the buildings and grounds at fifteen institutions operated under the direction of the board of control discloses that the state of Nebraska is one of the biggest real estate owners in the Cornhusker commonwealth.

The lands belonging to the state at these institutions are valued at $661,852. Buildings, equipment and general improvements are estimated to be worth $5,122.328, making a total of $5,784.181, as the combined investment.

The state hospital for the insane at Lincoln represents one-sixth of the entire amount. The state hospital at Hastings is worth almost as much.

Fifteen Institutions.

The real estate value for each institution is as follows:

Lincoln insane hospital	$ 958,684
Hastings insane hospital	935.470
Beatrice feeble minded institute	642,796
Norfolk insane hospital	616,753
Penitentiary, Lincoln	526.555
Grand Island soldiers' home	434,477
Boys' industrial school, Kearney	399,510
School for deaf, Omaha	345.350
Girls' Industrial school, Geneva	204,532
Milford soldiers' home	172,450
Tuberculosis hospital, Kearney	147,800
School for Blind, Nebraska City	139,455
Orthopedic hospital, Lincoln	132,939
Women's industrial home, Milford	87,539
Dependent children's home, Lincoln	39,872
Total	$5,784,181

The land at the fifteen institutions aggregate 3,898 acres and in addition there is 662 acres of rented lands, valued at $110,670, which are occupied and used by the institutions for farming and other purposes.

The institutions collectively made a good record in producing foodstuffs for the maintenance of their own population, and in some cases, for the market, despite the fact that the corn crop was almost a total failure the past season in some portions of Nebraska. Gardens and orchards also yielded little because of dry weather.

DR. C. C. [illegible]

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What Medical Science Owes to the Military Surgeon.

J. M. Banister, Colonel U. S. Army, Retired.

The medical profession in the prosecution of its busy professional life is very prone to accept great discoveries in medicine as accomplished facts, to be valued and used for the welfare of humanity, without taking into consideration the sources from which such boons are derived. It would seem that at this time when our country is engaged in the world war with heart and soul, it would be appropriate for me, as the detailed representative of the medical department of the army at this meeting, to invite the attention of this body of representative medical men to the debt of the profession to the military surgeon of the world.

To the great French military surgeon, Ambroise Pare, who flourished in the 16th century, is due the credit of introducing the use of the **ligature to control hemorrhage.** This innovation was bitterly opposed by the faculty of the period but the brilliant work of Pare overcame all obstacles of this sort, and brought about the common adoption of the ligature. The military surgeons of the 16th century may be said to have been in some sense, also, the forefathers of antiseptic surgery, for it is a matter of historical record that it was the practice at that day to treat the wounds received in battle by pouring in hot oil. Boiling oil introduced into the depths of a wound may have had no inconsiderable antiseptic effect. A most heroic treatment it is true, but nevertheless one which may have been decidedly instrumental in lessening infection.

The magnificent series of investigations into the physiology of digestion continued for several years by Major Beaumont of the United States Army at a frontier station placed the whole subject of digestion before the profession in an entirely new light. He made use of a gastric fistula in the case of a French Canadian voyageur, Alixis St. Martin, which enabled him to study stomach digestion at will, and to publish views which were

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Address delivered at meeting of Medical Society of the Missouri Valley Society, September 10, 1918.

of inestimable value to the profession in forming a basis for the proper appreciation of the physiology of digestion. His work stands as a monument to American medical investigation.

At the conclusion of our civil war the Surgeon General's office was possessed of a wealth of facts bearing upon the **medical** and surgical side of the war. These facts were studied and systematically arranged and treated in that monumental work "The Medical and Surgical History of the War of the Rebellion," the completion of which brought a very treasury of important professional data to the assistance of the profession and contributed to the glory of the medical department of the army and to the undying reputation of Majors Woodward and Otis of the Medical Corps, who compiled the data and formulated the conclusions. This work had a great effect upon professional opinion and practice following the civil war.

Major George M. Sternberg of the Medical Corps of the American Army, who was afterwards Surgeon General of the Army, and who may with propriety be called the father of bacteriology in this country, discovered the germ of pneumonia, and called attention to the fact that this micro-organism existed in the mouths of many healthy individuals. After Sternberg had described this organism Frankel, the German bacteriologist, proceeded to "discover" the same organism, and with their usual habit of grabbing everything in sight, his German confreres accorded to him the credit of the discovery ignoring Sternberg's priority, and the profession in our own country followed tamely after them. This was a source of distress to General Sternberg to the day of his death.

Until the work, during the 90's of LaGarde of the Medical Corps U. S. Army, now Colonel Louis H. Lagarde, Retired, it was supposed that, in the act of firing, the bullet from a military rifle was sterilized by the heat engendered by the discharge. LaGarde, by experiments upon animals at various ranges, proved, by using bullets infected with anthrax and streptococci of various strains, that these bullets were by no means sterilized, but were violently infective. This valuable demonstration has been of great value upon the battle fronts in Europe enabling military surgeons to take steps to prevent tetanus, gas, and other infection from rifle and shell fire by the proper treatment of all wounded men.

In 1880 in Algiers the French Military Surgeon, Laveran, made his great discovery of the malarial plasmodium in the blood of man. The life history of the plasmodium was thoroughly studied by Laveran and other observers but how the organism secured an entrance into the blood of man no one knew. In 1897 Ronald Ross of the English Service made his immortal discovery that the malarial plasmodium is transferred from host to host solely by one species of mosquito, the anopheles. To paraphrase a statement of Manson, a new era dawned for medical science when Ronald Ross introduced upon the stage of pathology the anopheles mosquito as the sole agent in the transmission of malaria, for I may add, under the inspiration of this discovery other species of mosquitos, notably the yellow fever variety, the tick, the bedbug, the louse, the domestic fly, the stable fly, the tse-tse fly of Africa, which transmits the deadly sleeping sickness, the rat flea, the squirrel flea, and the cockroach have all been dragged before the bar of scientific investigation and been convicted of being wholesale murderers. In fact the knowledge of the important agency of the whole insect world in the transmission of disease has its source from this great and epoch making discovery.

The stupendous discovery and demonstration in 1900 by our "Army Yellow Fever Board" in Cuba, consisting of Major Reed, Carroll, Lazear and Agramonte, that yellow fever, the scourge of the warmer regions of our hemisphere, is solely caused by the bite of the stegomyia fasciata mosquito, which having bitten a patient sick with yellow fever during the first three days of his illness would after twelve days have the power of infecting a susceptible person by its bite, has immortalized the Medical Corps of the U. S. Army, and with it American Medicine. This great discovery, however, was not made without suffering, was not proved without the death of martyrdom. Of the original Yellow Fever Board Laziar died from being bitten by an infected mosquito, Carroll was given the disease experimentally, and while he recovered from the immediate attack, yet died from its effects some years afterwards, and Major Reed was so debilitated by his labors in tropical Cuba that he fell an easy victim to an attack of appendicitis. To establish the facts of this means of transmission volunteers from the enlisted men of the Army came forward and offered themselves as subjects for the experiments. A number of these contracted the experimental disease and added to the list of martyrs. "Greater love hath no man than this, that a man lay down his life for his friends." Yes, but these officers of the medical department of the army, and these enlisted men more than merited the encomium of the Saviour, just quoted, for they laid down their lives not for their friends alone but for countless future generations of the human race. In consequence of this great discovery yellow fever was stamped out in Havana in 90 days, where it had been continuously in existence for 150 years. Likewise the fearful epidemics of this disease which had been ravaging our southern states since 1664 were stopped forever, for the general profession was taught how to prevent them by an efficient mosquito campaign.

Let us now turn to the Panama Canal Zone and consider the wonderful construction of the Cana. What a wonderful undertaking! What a stupendous engineering feat! Yes, but what of the sanitary administration of the Canal Zone under Colonel Gorgas and his subordinate officers of the Medical Corps of the Army, which throttled malaria and drove yellow fever from the Zone never to return. To the military surgeon is due the priceless acquisition to our country of the Panama Canal, for without his scientific discovery of the means of transmission of malaria and yellow fever, and his masterly sanitary administration founded upon such knowledge, its construction would have remained an impossibility.

Dengue is a peculiar febrile affliction common to most of the tropical and subtropical countries of the world, and is responsible for much suffering and great economic loss in such regions. The United States Army Board for the Study of Tropical Diseases, which is constantly in being in the Philippines, made the important discovery that this disease is transmitted from the sick to the well by the culex fatagans mosquito, thus enriching medical science by another valuable and farreaching addition to the knowledge of pathology.

Beriberi is a form of multiple peripheral neuritis, which is extremely prevalent in warm countries, and which causes great ravages among the native population. The economic loss from its effects upon native troops and coolie labor in the Orient is enormous. The Army Board for the Study of Tropical Diseases has proved that beriberi is due to a deficiency in the rice diet of the natives of the necessary vitamins in consequence of the polishing of the rice grain. Such overmilling, or polishing, removes the portion of the envelope of the rice grain which contains the anti-beriberi principle. Following upon this discovery and demonstration the feeding of our native troops in the Philippines upon unpolished rice stopped the occurrence of beriberi among them and taught the world how to prevent the disease in native populations.

When the United States troops occupied Porto Rica during the Spanish American War the natives were found to be affected with a marked and peculiar type of **anemia.** The investigation of this condition was undertaken by First Lieutenant Bailey K. Ashford, Medical Corps, U. S. Army, now Colonel, who discovered that this form of anemia was due to the hook-worm, which was responsible for one-fourth of the deaths among the native Porto Ricans. He sent a specimen of the hook-worm to Stiles of the Public Health Service in Washington, who found that it was not the hook-worm of Dubini, but an entirely new species, to which was given the name necator Americanus, the American murderer. In consequence of this discovery the Medical Department of the Army entered upon a system of instruction of the natives and established stations where free treatment could be secured. The result of this work has been wonderful in its effect upon the native efficiency and in the lessening of the death rate.

Typhoid fever from time immemorial has been the bane of troops. In every newly organized camp typhoid would formerly appear with the most lamentable results. During the Spanish-American war of the 107,000 men raised for our national defense over 20,000, about one-fifth of these new levies, were attacked by this disease. Surgeon General O'Reilly, of the United States Army, and after him Surgeon General Torney, instituted attempts to secure a prophylactic treatment by vaccines, following the views of Wright and Leishman of England. The vaccine prepared by these observers had been found to be ineffective and the method had fallen into disuse in consequence. In the hands of Major Russell of the Medical Corps of the Army the whole subject was worked up de novo and it was found that by Wright's method the endotoxin in the killed typhoid bacilli had been rendered worthless by too much heat too long applied. The proper method to kill the bacilli without affecting the endotoxin was worked up by Major Russell, and a standardized vaccine containing 1,000,000,000 dead bacilli to the c. c. was prepared. This was accomplished in 1909. For a while experiments were made with this vaccine upon volunteers from the Medical Department of the Army. The results were so good that in 1911 this vaccination was made compulsory in the service. As the result, typhoid fever has virtually been wiped out in the military service, and a valuable means of prevention has been placed in the hands of the civilian practitioner. If vaccination against typhoid were systematically used in civilian populations, this disease, which causes the deaths of 35,000 persons a year, and induces the illness of 350,000 more individuals annually who recover after a sickness of six weeks on an average, would be thoroughly prevented. The economic loss from this amount of illness caused by this disease alone is placed by authorities in economics at $300,000,000 annually. A means of eradicating this death, suffering, and economic loss has been placed in the hands of the medical profession by the military surgeon.

Suitable vaccines for paratyphoid "A," and paratyphoid "B" have also been worked up by the Army and put into compulsory use. The latest development along this line of prophylaxis has been the preparation of a triple-vaccine, containing an immunized dose of all three groups of bacilli. By this magnificent work alone the military surgeon has enriched scientific medicine beyond description.

A peculiar type of disease has developed among the troops on the battle lines in Europe during the great war called **trench fever.** Many men were stricken with this disease, and the morbidity of the trenches was greatly increased in consequence. The pathology of this disease was in darkness until the American military surgeon arrived upon the scene. By paying attention to the possibility of its being a louse infection, and by experimenting upon volunteers with lice, which had been permitted to feed upon patients sick with this disease, the fact was definitely and positively settled that trench fever was caused by the bite of infected lice, and a new gem was placed in the crown of the American military surgeon.

Community and Autogenous Vaccines in the Treatment of Chronic Gonorrhoea.

Milton F. Arnholt, M. D., Lincoln.

Before I give my own limited experience, and deductions on this subject, it would be natural to present the conclusions of more eminent investigators. When the vaccine therapy was first promulgated the medical profession received it with great enthusiasm and as a consequence everything was treated with vaccines. Soon grave doubt slowly crept in, until finally the pendulum has turned, as we may witness from the following brief summaries of the work of the following:

Dr. John Campbell Spencer of San Francisco says that gonococcus vaccines are of no value in gonorrhoea.

Dr. Louis C. Schmidt claims that vaccine treatment of gonorrhoea is not as satisfactory as other treatment although some cases have been relieved or cured.

Dr. Lewis Wine Bremerman of Chicago finds that commercial vaccines are of no value.

Dr. Granville MacGowan says we have all failed with gonorrhoea vaccines.

Dr. Fred R. Charlton of Indianapolis claims that gonorrhoea vaccines are fads.

Dr. Edward L. Keyes, Jr., of New York has no confidence in vaccines or serums in the treatment of gonorrhoea.

Still we have a few who seem to retain a little faith.

Dr. Theodore Baker of Pittsburgh has had apparent success with vaccines providing he gets a good local and general reaction.

Dr. John R. Brown of Tacoma says vaccines in gonorrhoea have not made good with the exception of those causing a general reaction.

Dr. W. Jones Wallace of Oklahoma City uses gonorrhoea vaccines in chronic cases

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[1] Read before the Lancaster County Medical Society, December 21, 1918.

and complication with good results if large doses are used.

Dr. Martin Krotszymer of San Francisco has good results with autogenous vaccines only.

Dr. Block claims remarkable results in forty cases.

Dr. Carl C. Warden of Ann Arbor has put the greatest amount of study on the gonococcus and while having little faith in salt suspensions, isolates the fats from the gonococcus and has fine results in treatment.

Dr. Harry Culver of Chicago gets the same good results in the use of gonococcus, meningococcus, or colon vaccines, in the treatment (intravenous injections) of arthritis, epididymitis or prostatitis. The benefit runs parallel with the fever and leukocytosis produced.

Also Dr. Joseph L. Miller of Chicago, Dr. Muller and Weise claim that gonococcus vaccines are not specific and report great results with foreign vaccines or proteids. Thus the therapeutic value of vaccines in gonorrhoea seems to be discredited by many of the authorities.

In this paper which I present tonight, the terms should be defined. Thus chronic, as I use it refers either to complications of some standing as prostatitis, epididymitis, arthritis and posterior urethritis or whenever the gonococci are found extracellular in any discharge. The term community vaccine which I either coined or plagiarized unconsciously, means vaccines made of cultures from my own patients, but not necessarily from the patient to be treated. Autogenous vaccines are those made of cultures from the patient to be treated. This is not always possible in the treatment of some of the complications of gonorrhoea, such as joint complication.

The following technique in the preparation of the vaccine was followed: At first a culture was made from the discharge on blood agar slant (whole human blood), thence transferred to dextrose agar or plain agar, three tubes being used. These colonies were then scraped off into a tube with sterile normal salt solution and then sealed. Then subjected to heat in a hot water bath of 55° to 60° C for one hour.

If then a culture made, showed no growth I did not subject to more heat. If growth resulted, I treated with heat in the same manner the second day. If a growth resulted after the second heating I repeated the process a third time, but rarely did I find this necessary. This point of the least amount of heating to kill the gonococci may explain the poor results from overheated vaccines, as I maintain the opsonic producing power of all bacteria is lessened the more they are heated. The finished vaccines were then put into a sterile bottle, sterile rubber caps put on (with lysol between). I did not titrate as to number in 1c. m., but as a rule used three culture tubes which showed about the same growth macroscopically with the same dilution of normal saline for the following reasons: Gonococci fairly rapidly disintegrate in normal salt solutions and different strains show a more virulent reaction than others. Thus I relied upon my clinical reactions and started my injection with the small dose of 2 min. All injections were given subcutaneously into the brachial region of the arm alternating from one arm to the other at three day intervals whenever possible.

In most all cases the minimum dose of 2m causes only a local reaction, such as itching, redness, etc., at the sight of injection. I aimed to increase the dose 1m till a constitutional or general reaction, of one, a few, or all of the following resulted: headache, fever, nausea, chills, lassitude, pains in muscles and joint and leucocytosis. In some I reached that point with 4 m doses, others took as high as 16 to 20 m. This dosage I maintained unless the patient objected too strenuously or the reactions lasted too long. These general reactions were transitory lasting from one hour to twenty-four hours.

I have two groups of cases to present.

Group 1 consisted of 30 cases (all male), treated locally only, with the following types of gonorrhoea—post-urethritis, epididymitis, orchitis, arthritis and prostatitis.

Twenty were discharged as clinically cleared up, but not free from gonococci in the laboratory.

Seven discharged themselves on feeling better.

Three were benefited slightly but not even clinically cleared up.

Group 2 consisted of 21 cases (5 female) treated with vaccines and local treatment combined. Every one of these cases had been treated from one week to ten years by local treatment alone, but still showed strong clinical and laboratory manifestation of gonorrhoea. I myself treated each of these 21 cases from one to two weeks locally and then switched to the combined treatment.

Nine were discharged as clinically free from gonorrhoea and negative to the gonococcus in the laboratory.

Six were discharged as clinically free from gonorrhoea but positive to the gonococcus in the laboratory.

Three discharged themselves on showing rapid clinical improvement.

Three were not benefited to any considerable extent.

I find that the time element of cure (?) was about the same in both groups—three weeks to three months. The subjective symptoms of group 2 (those treated with vaccines) were much less marked—such as pains in the joints, heavy feeling in the region of the prostate, difficult urination, urethral and bladder pains and hemorrhage and discharge of pus. Another significant point was found that those cases of group 2 discharged showed no clinical manifestations of gonococcus and also no gonococcus in the urine.

One case had been treated for ten years off and on for an anterior urethritis, in which most all of the glands of Litre were involved (shot like feeling to touch). At no time during these ten years had he been entirely free from a discharge or pus. I treated him locally for two months without making much headway. After one month of combined treatment I discharged him free from any pus or gonococcus in the urine, the glands of Litre not being palpable. Whether he will remain thus I cannot state.

In the five female cases treated, (group 2), the results were very encouraging. As soon as a constitutional reaction was reached (1 to 3 weeks), both the local and general symptoms receded at a fairly rapid pace. The patients themselves were more easy to handle, complained less, and gave me more time to work out a definite line of local treatment. The appetite was improved, lassitude receded and a brighter mental attitude resulted—locally, the various pains, burning sensation, discharge, etc., were checked.

As to the permanent cure of my cases treated with vaccines, neither I, nor any other man, can give a definite positive answer.

In conclusion let me state a few points which I have learned from the treatment of chronic gonorrhoea with vaccines.

1. The time element of clinical cure is about the same whether treated with or without vaccines.

2. Autogenous vaccines give better results than community vaccines.

3. General and local symptoms are checked and held under control when vaccines are used.

4. It is possible to discharge a patient free from gonorrhoea both clinically and in the laboratory.

5. The general and local treatment are necessary whether vaccines are used or not.

6. Chronic gonorrhoea among females seems to give us the most encouraging field.

Surgical vs. Medical Treatment of Gastric Ulcer.

Dr. Harry H. Everett, Lincoln, Nebraska.

The assignment of such a title seems to me particularly unfortunate, since it conveys the impression that the matter of treatment in gastric ulcer, is a question shrouded in doubt and a subject of controversy.

Perhaps this is the opinion which obtains in the minds of some medical men, but I am certain that among those who have had any considerable experience and who have given the subject any study or thought there is but little confusion.

It must be admitted that in the past there was a question of what to do in gastric ulcer; for the over-enthusiastic surgeon advised one thing, and the over-conservative internist another.

Personally I have passed through both stages of enthusiasm and conservatism, and hope that I have reached a proper balance.

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*Read before the Lancaster County Medical Society, March 1, 1919.

Such a balance has been acquired only through somewhat bitter experience and disappointment, which both were not confined to myself but were equally shared in by my patients.

When the possibilities of surgical intervention were first advanced by the eager and aggressive surgeon the hospitals, the literature, and the cemeteries were filled with the end results of ill advised and indiscriminate operations. Only when the busy surgeon became annoyed with signing death certificates in the presence of other prospective victims or when his office chairs were occupied by his or other surgeons gastric-ulcer cases, complaining bitterly that they were far worse off than before their operation, did he learn to discriminate between the operable or surgical and the purely medical conditions.

It must be admitted that at first no one had enough experience to pass sane judgment upon any individual case but with time and the consideration of the ever increasing volume of statistics there grew an understanding of the actual clinical picture which signified the necessity for surgical attack.

In the beginning of gastric-ulcer surgery all ulcer cases were assumed by some surgeons to be operable.

Perhaps no one method of examination has had more to do with the abandonment of such a palpably false premise as the development of X-ray diagnosis.

By X-ray diagnosis I do not refer to the mere taking of a more or less technically correct picture as is done by some so called X-ray specialists, but rather the proper interpretation of plates in conjunction with the physician who is in possession of the full clinical history.

Only by such cooperation can a conclusion be reached which will give the sufferer the best opportunity for relief from his distress.

I do not believe that too much stress can be placed upon this point, of experience in interpretation of the X-ray findings in the light of the full clinical history.

Too frequently there wanders into my office a patient bearing a film with a stamped hand upon it pointing to the site of a gastric ulcer. Often this patient is accompanied by his physician who also has been informed that the hand is the hand of fate.

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As a matter of fact the alleged ulcer site is no more than the registration upon the film of a normal peristaltic wave!

Such an interpretation is excusable if made but once and by a beginner but when again and again repeated stamps the perpetrator as woefully ignorant or wilfully deceiving.

An example of my own personal experience with this type of X-ray diagnosis is as follows: Plates were demonstrated to me showing about the middle of the lesser curvature a normal peristaltic wave as the site of the ulcer.

An attempt was made to show the inaccuracy of this and also to point out the presence of a marked pyloric deformity as the only pathologic variation from the normal, but with no success.

Operation showed a stenosing callous ulcer at the pylorus and no ulcer in any other area in the stomach.

The few paragraphs just preceding are not to be interpreted as an attack upon any individual but rather as an admonition to give your patient the benefit of really accurate observation.

The finding and demonstration of actual changes in the morphology of the stomach and duodenum is not the limit of value in an X-ray examination.

Not always is a lesion demonstrable in the plate but this lack of actual evidence can be replaced by certain phenomena as presented on fluoroscopic observation taken together with the emptying time of the stomach and the presence or absence of pyloro spasm with hypo or hyper-peristalsis.

Many a case presenting almost a complete ulcer history can be shown by the X-ray to be entirely functional and secondary to gall bladder or appendiceal changes.

There is no necessity to go into the symptomatology or etiology of gastric ulcer at this time.

What really is meant by the title assigned to this paper is what are the surgical indications in gastric ulcer and what surgical procedures are advisable.

The first indication in prospective gastric ulcer surgery is to be sure you have a gastric ulcer.

This statement may seem entirely out of place, but I have seen too many abdomens opened and to be honest, too many open abdomens where no stomach pathology was demonstrable and where the relief of other abdominal pathology relieved the apparent gastric symptomatology.

No surgeon has any right to advise operation for any gastric condition after only a brief and cursory examination in his office or at the bedside.

The indications for gastric ulcer surgery are so seldom that an operation should never be advised until sufficient study of the individual, his history, the few significant laboratory findings and the X-ray has been made.

Gastric ulcer can roughly be divided surgically into three groups: the acute, the chronic and the perforating acute and chronic.

All ulcers situated past the pylorus and in the first portion of the duodenum should be classified as gastric.

Again the ulcers of the three groups can be reclassified into three anatomical groups—those of the lesser curvature—the greater curvature and of the pyloric region which includes the duodenal. This classification is based upon the blood supply of the respective regions.

The first group in which gastric surgery is positively and imperatively indicated is that in which perforation has occurred in an acute or a chronic ulcer. The picture here is so clear that a prolonged study of the case outside of a careful anamnesis and a careful physical examination is not necessary.

The operation should be performed at once, should be as brief as possible and should consist in merely closing the perforation and amplying draining, remembering to drain not only the site of perforation but also the pelvis. The duration of the operation should not be over 10 or 15 minutes.

Treat the case as one of general peritonitis and not that of ulcer.

The subjecting of the individual to any attempt to cure the ulcer by a gastro-enterostomy or a resection is only an experiment in determining how much surgical insult the given case can stand.

If other gastric ulcer surgery is indicated let it be done subsequently when the tremendous handicap of peritonitis and shock does not have to be overcome.

The second group that of acute ulcer where ever situated is only to be operated when a lethal hemorrhage is threatened. This indication occurs but seldom and the procedure here consists is simply tying or cauterizing the ulcer and the bleeding point. Such an operation as excision should seldom if ever be carried out since here as in acute perforation your individual is at the end of his resistance and other than simple surgery can only lead to disaster.

In acute hemorrhage in acute ulcer a transfusion should always be performed preferably with non-citrated blood. If this precaution be carried out many times your operation is not necessary for the foreign blood supplies your haemostatic ferments.

An acute ulcer otherwise should be given the benefit of a well directed ulcer-cure. The failure of medical treatment in many an ulcer is due to an improper conception of what a cure is, both on the part of the physician and on the part of his patient.

The third group that of chronic ulcer is always operable when there exists a stenosis at the pylorus.

The type of operation advisable here depends largely upon the amount of pathology—a large callous ulcer is better resected if the general physical condition permits—otherwise a gastro-enterostomy should be done.

My own experience with gastro-enterostomy is not as favorable as the statements and publications of my brother surgeons lead me to believe, especially in regard to a posterior gastro-enterostomy.

Sooner or later a closure of the enterostomy opening occurs even when the pylorus has been closed at the time of the enterostomy. At the same time the pylorus reopens and the patient complains of symptoms even more distressing than those of the original condition.

In these cases it is necessary to undo your gastro-enterostomy opening.

In the past year one of my colleagues has undone two of my cases and in the past eighteen months I have undone three of his posterior enterostomies. In addition, I get an occasional case from the various clinics in other sections of the country so I feel competent to pass judgment upon this procedure on the basis of actual experience.

In contrast to these unfavorable results, I find a Finney pyloroplasty to give the most ideal after result with an anterior gastro-enterostomy a close second.

In regard to the chronic gastric ulcer situated in other portions of the stomach, it is my practice never to operate until a rigid ulcer cure has been carried out without benefit. With this exception, when there is more than a suspicion of malignancy when a hemorrhage persists or there is a suspicion of a chronic walled off perforation.

Here, as in the other types of ulcer, the kind of operation performed depends upon the pathology. Resection is always done if the ulcer is readily accessible and does not require too much trauma. If the site of the ulcer is not too close to the pylorus a Finney pyloroplasty is made. Otherwise an anterior gastro-enterostomy is the next choice.

I must admit that this conservative attitude toward gastric ulcer—giving the patient the benefit of a thorough medical regime, deprives me of many an operation which I might otherwise have performed.

As a reward I have more grateful patients 100% well than I have of those 80% well who have had gastric surgical interference No patient who has had any of the varied gastric operations can expect to be entirely free from distress.

Every operated gastric ulcer is medical as soon as it leaves the hospital and should be given the benefit of a well planned medical and dietetic regime.

To summarize:

The indications for gastric ulcer surgery are as follows:

1. Hemorrhage which is so severe as to be alarming.

2. Acute perforation in whatever type of ulcer.

3. Stenosis at the pylorus.

4. Chronic ulcer which does not yield to adequate medical treatment.

5. Ulcer in cases in which there may be a suspicion of cancer.

(a) Sometimes in the young.

(b) Always in those past middle life.

The type of ulcer surgery indicated depends largely upon the type of ulcer, and should be as simple as the condition permits. In perforation, a simple closure of the rent with drainage. In hemorrhage, of ligature or cauterization of the bleeding point.

In obstructing ulcers at the pyloris:

1st. Excision.

2nd. A Finney operation.

3. An anterior gastro-enterostomy with closure of the pylorus.

4th. A posterior gastro-enterostomy with or without closure of the pylorus preferably with;

In ulcers elsewhere:

1st. Excision if possible.

2nd. If excision is impossible, an infolding of the ulcer with tying off of the blood supply is indicated.

3rd. A Finney operation if none of the above can be carried out.

The following lantern slides from roentgenograms illustrate my point in differential diagnosis.

1. This roentgenogram shows a small lesion of the duodenum. Note the nicked-out appearance of this cap. This is an acute type of duodenal ulcer. Male. 34 years of age, complained of typical ulcer symptoms for the past three months. Occult blood in stools. Put to bed and treated according to Sippy's modification of the Cohnhein treatment. Symptomatically cured. Roentgen findings negative.

2. Roentgenogram of chronic indurated ulcer of the duodenum. Male 36 years of age. The duodenum was closed by the suspensory ligament, reinforced by sutures. Anterior gastro-enterostomy. Patient symptomatically cured with no return of unpleasant symptoms.

3. Linear ulcer of the pylorus and prepyloric antrum with marked stasis in the duodenum, probably from adhesions constricting the gut. Some stenosis. A Finny was advised and refused by the patient.

4. Shows marked pyloric deformity on the one roentgenogram and a marked stasis as seen at the end of 24 hours on the accompanying roentgenogram. The roentgen findings in this case were so suggestive of early carcinoma, especially the type following a chronic ulcer and due to her stenosis resection of the pylorus was advised and accepted by the patient. An extensive resection was done however, and 3 or 4 inches of the pyloric end of the stomach with the pylorus was resected. A mass of adhesions to the pancreas were disected off; the surgical opening in the stomach closed and an anterior gastro-enterostomy performed. This patient's recovery was uneventful, complaining of no more difficulty than the ordinary, simple gastro-enterostomy. Pathological findings nodule.

5. This roentgenogram shows a typical Lane's kink. You will note here that the cecum and the terminal ileum are nearly together.

Fluoroscopically the adhesions between the cecum and ileum were demonstrable. This patient had a typical ulcer history, but a negative stomach with the exception of pyloric spasm and marked increase in the peristalsis. Following an operation for the correction of this pathological condition about the cecum and terminal ileum the patient was symptomatically cured of the stomach disturbance.

Report of Medical Work of Local Board for Division No. 1, City of Lincoln, Neb.

H. P. Wekesser, Medical Member of Board.

This report represents a vast amount of work and it has taken much time and effort to put it into this form.

My object in putting it into this form is mainly to show, as nearly as possible, the percentage of physically defective men of military age in our community, and the defects found by the examiners.

The number of defectives is the correct total number of defectives in our Division, but the number of men qualified for General Service is less than it should be as the men rejected at the recruiting stations of the Army and Navy, and Officers' Training Camps were required to register while the men in the Regular Army, the Navy, the National Guard, and the Naval Militia were not required to register; and the S. A. T. C. and S. N. T. C. boys, among whom the percentage of rejections was very low, were registered but not examined by us. This makes the percentage of defectives as shown by our records higher than it should be.

The slight discrepancy that may be found in the totals of some of the figures is due to changes in regulations and classification, as my list of the causes of rejections was made before all of the work was completed. It would require more time than I can spare at the present to correct these errors, and besides the changes in the percentages would be very small.

Our total number of registrants was	6577
Total number examined by us	2029
Registrants who enlisted and were not examined by us (5-D)	368
Total examined	2397

This shows that 36.44% of our registrants were examined by us or at the recruiting stations, and it is this number that forms the basis for determining the percentage of the various classes of defectives.

All Class 1 men between the ages of 18 and 31 and some of the men between 31 and 36 were examined. The Class 1 men above 36 were not examined.

Total number rejected (unfit for any kind of military service, including those rejected at camp) 5-G	345
or 14.8%.	
Passed for Limited Service	158
Remediable	46
Total number of defectives	549
or 22.9%.	

If we knew the number of our men in the service that were not required to register, I think the number of defectives could be shown to be not more than 20%, and those unfit for any kind of military service not more than 13%.

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*Read before Lancaster County Medical Society, March 29, 1919.

Forty-six of our inducted men were rejected by the camp examiners. Twenty-two of these were held by us for Limited Service, or were classified as remediable, and some we expected to return again to camp. Most of these rejections at the camps were men who were examined by us under Regulations Governing Physical Examinations Nos. 11 and 64, and examined at the camps under Form 75 which was issued in June, 1918, and was much more rigid. Other causes for the rejections were due to the use of different standards at the camps than were used by the Local Board examiners, the limited time allowed for the examinations, and the fact that early in the work the Local Board examiners were instructed to give the benefit of the doubt to the government. Our percentage of rejections at camp based on the 1917 registrants (since only a few of the 1918 registrants were inducted) was 3.23%. After Form 75 became the uniform standard for all branches of the Army, and it became known that only 100% perfect men were accepted for General Service, there were fewer rejections at the camps.

We had 50 men classified as remediable. Four of these (herniae) were operated upon successfully and later passed for general service. This work was done according to the plan that was recommended by the Surgeon General; that is, that local surgeons operate upon these men, and hospitals provide care without charge, if the man was unable to pay for the same. Two of our men were operated by Doctor Everett, one by Doctor Finney, and one by the writer, and received hospital care at the Lincoln Sanitarium and at St. Elizabeth's, all without any cost to the registrant. This work shows the value of reclamation hospitals.

The following conditions as found by our examiners show that most of the defects are due to acquired diseases, or accidents incident to occupation and every-day risks of life.

For the sake of brevity I have included here the complete rejections (5-G), those passed for limited service and the remediable cases:

Eyes—(69, about 3%):	
Defective Vision	54
Strabismus	2
Chronic Choroiditis	1
Blind in one eye (traumatic cataract, eye missing, etc.)	6
Glaucoma	1
Trachoma	4
Lagophthalmus	1
Ears—(27):	
Deaf Mutism	1
Partial Deafness	14
Chronic Purulent Otitis Media	12
Nose:	
Extreme obstruction due to fracture	2
Cleft Palate	1
Stammerer	1
Teeth:	
Insufficient good teeth	23
(Under Form 64 which was used when the need for men was greater, plates and bridges were accepted).	
Skull:	
Decompression Operation following injury	1
Depressed fracture	2
Exopthalmic Goiters	11
Tuberculosis—(42):	
(Orthopedic Hospital in our Division)	
Pulmonary	26
Hip	5
Spine	5
Knee	4
Spine and hip	1
Ankle	1
Lung Abscess	1
Asthma	5
Chronic Bronchitis	1
Heart—(59):	
Mitral insufficiency	28
Heart Lesions (kind not stated)	22
Mitral Stenosis	1
Mitral and Aortic Insufficiency	1
Aortic Stenosis	1
Aortic Insufficiency	1
Aortic Stenosis and Insufficiency	1
Tricuspid Stenosis	1
Tobacco Heart	2
Endocarditis	1
Tachycardia	9
Chronic Pericarditis	1
Feebleminded	15
Insanity	6
Drug Habit	2
Syphilis:	
Cerebrospinal	9
Part involved not stated	2
Epilepsy	3
Chronic Chorea	1
Neurasthenia	3

Multiple Neuritis, Alcoholic	1
Lumbo-Sacral Neuritis	1
Paralyses:	
Progressive spinal	1
Universal Spastic	1
Hemiplegia	1
Paraplegia	2
Partial of hand	1
Partial of arm	1
Partial of leg	3
Contractures Due to Spinal Cord Disease	1
Sacro-Illiac Disease	1
Sacro-Illiac Deformity	1
Laminectomy Following Injury	1
Ankylosis of Spine	2
Sacral Injury	2
Spinal Curvature	6
Obesity	6
Underweight	35
Height (79 inches)	1
Diabetes Melitus	1
Chronic Nephritis	8
Renal Calculi	1
Hernia	48
Thin Abdominal Scar	1
Undescended Testes (in Canal)	1
Enlarged Testes Following Herniotomy	1
Varicocele	4
Hydrocele	2
Urinary Fistula	1
Bed Wetting	1
Pilonoidal Sinous	1
Hemorrhoids	3
Rectal Stricture	1
Rectal Fistula	1
Chronic Rheumatism	1
Arthritis Deformans	1
Gonorrheal Arthritis	1
Chronic Eczema	1
Deformed Chest	1
Old Fracture Sternum	1
Shoulder:	
Ankylosis	2
Gunshot Shoulder and Leg	1
Arm:	
Old Fracture	6
Ankylosis	3
Ankylosis Wrist	1
Hands:	
Deformed and mutilated (1 birth palsy)	14
Hip:	
Dislocation	1
Deformed	2
Leg:	
Varicose Veins (1 in old fracture)	4
Thrombophlebitis	1
Chronic Synovitis and Loose Cartilage Knee	1
Ununited Fracture (old)	1
Amputations	6
Atrophy	6
Deformities	3
Old Fractures (1 knee)	6
Injuries (2 knee)	3
Periostitis tibia (chronic)	1
Feet:	
Deformities (fractures, arthritis, club, etc.)	12
Old fractures—foot and foot and ankle	7
Painful scars	2
Callouses	3
Flat (severe)	26

Ninety-two had more than one cause for rejection, but only the main cause is given above.

We examined about 200 men for other Boards. The results of those examinations are not included in this report.

Cleft Palate and Harelip.*

William Lete Shearer, M. D., D. D. S., Omaha.

Introductory Remarks.

Certainly one of the most important things in connection with the care of these unfortunate babes is the one that is most neglected. I feel we are apt to be a little hasty in operating. The same applies to operations on the body as a whole. Rushing the patient into the hospital, administering an anesthetic, and operating without giving the patient sufficient thought seems to me inexcusable. I believe that we should study these cases before attempting operative procedure. Too much thought cannot be placed on the question of the pre-operative care of these children, especially babies, as well as the post-operative care.

Congenital cleft palate accompanied with harelip is unquestionably one of the most unfortunate deformities which may befall a child. Certainly it is a most distressing, heart-rending calamity to the parents, more especially to the mother. So often the first utterance of a mother is: "Is it all right, is it perfect, Doctor?" and when advised that the child is normal, the most satisfying sigh of relief is exhibited by her. This deformity when not corrected is a source of pain, not only to the parents but to the child, all through life. So much so, in fact, to the one afflicted that he will shun society.

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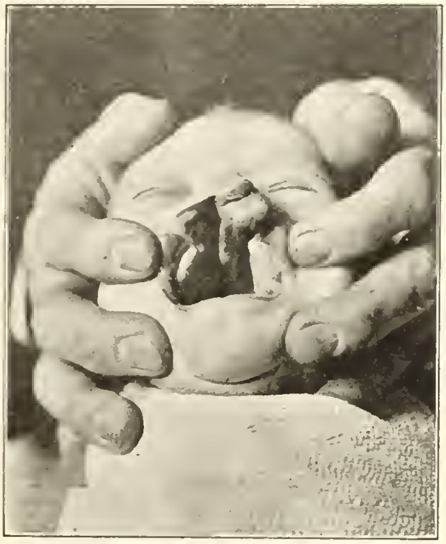
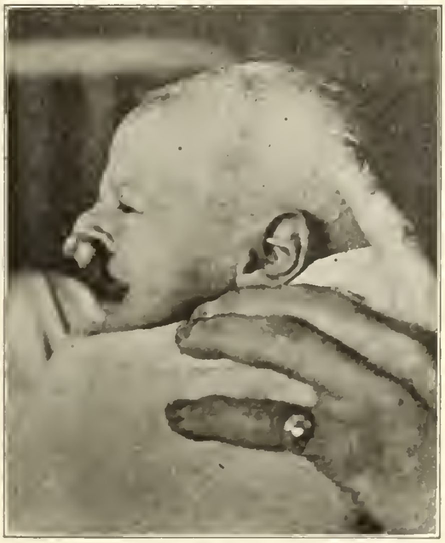
*Read before the National Dental Association at Its Twenty-second Annual Session, Chicago, Ill., August 5, 1918, and Omaha-Douglas County Medical Society, October 8, 1918.

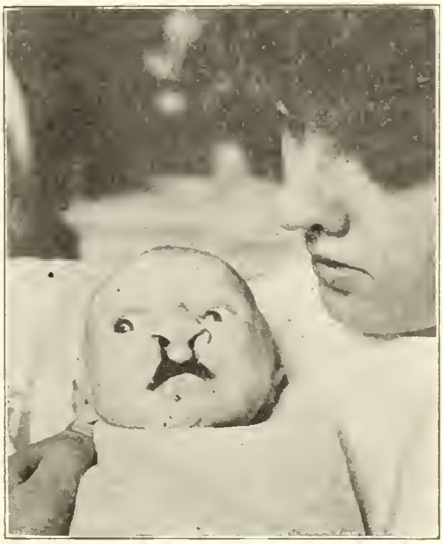
Cleft palate is the result of failure of union during development in embryo of the parts which make up the palate. At the time of birth a cleft palate child possesses the normal amount of tissue (with rare exceptions) to form a perfect palate, although it is not united. It is true, however, as has been observed by many, that later on in life, due to lack of use of the musculature of the palate, atrophy may result. It is likewise true that any other part of the body when not used does not develop. For example, bind one arm to the side of the body and very shortly atrophy due to disuse follows. This one truth alone should be sufficient to justify early operation upon the bones as well as comparatively early surgery of the soft palate, as advised by Brophy.



Case 1. Plate 1.



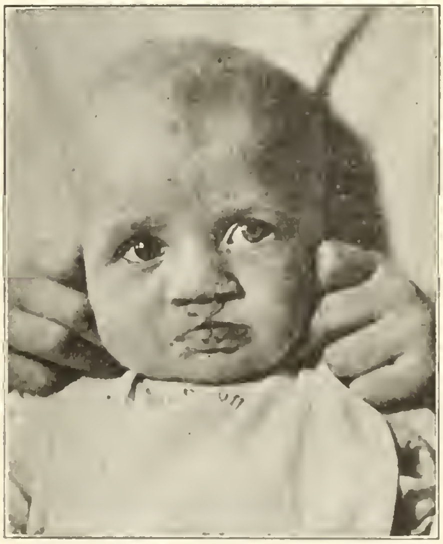
Case 1. Plate 2.



Case 1. Plate 3.

Histology and Embryology.

In the formation of the palate there are six centers of ossification, as follows: two palatal, two premaxillary and two maxillary, and associated with these bone centers are the soft tissues, mucous membrane, connective tissue, periosteum, etc., which go together to form a normal palate. Only when an interference of some character occurs do we have cleft palate result, often associated with cleft of the lip.



Case 1. Plate 4

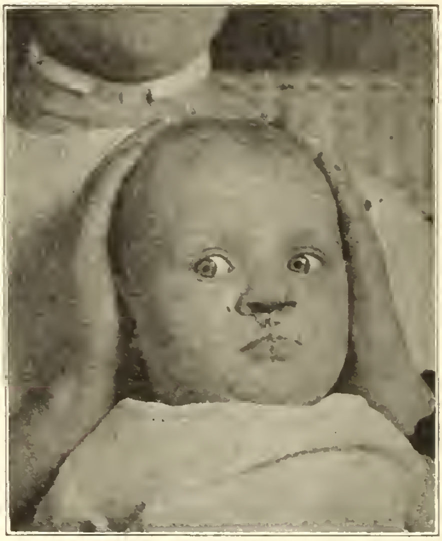
During embryological processes, all babes have cleft palate prior to the second month of gestation. Near the end of the eighth or ninth week of the embryo the palatal process should be perfectly united. As has been stated by Brophy and found true by other observers, "a child with complete cleft palate at time of birth is possessed with the normal amount of tissue with rare exceptions."

Case 1. Plate 5.

Causes of Cleft Palate, Predisposing and Exciting. Classified by Brophy.

Predisposing Causes: There has been much written relative to the etiology of cleft palate, yet most may be and doubtless is conjectural. This deformity is like all other teratology, subject to further investigation. Different authors have attributed as cause, uterine inflammation, venereal diseases, maternal prenatal impressions, pressure, defective nutrition during early weeks of gestation, heredity, and intervening mucosa in tooth enamel formation. The one standing out most convincingly to many is heredity.

Case 1. Plate 6.



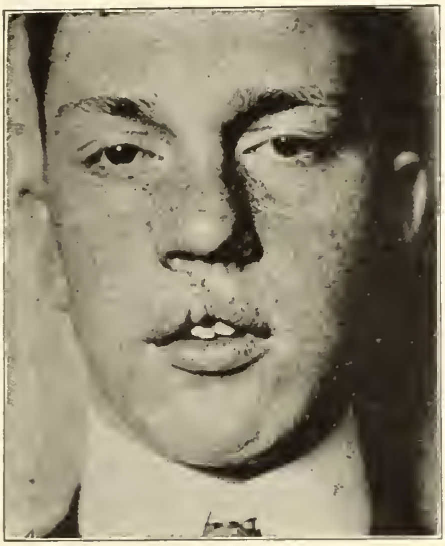
Case 1. Plate 7—Soft Palate not yet repaired.

Observations made by Dr. O. A. Strauss in the study of abnormalities of animals in the zoological gardens at Berlin, October, 1913, are particularly interesting. Thirty-two jaguars born of one mother by the same sire within one year had cleft palate and all died. The parent animals were fed cold meat from which the blood had been allowed to escape. Later the diet was changed and they were fed meat which was still warm and which contained blood, and upon this diet not

Case 1. Plate 8—Father of Case 1.

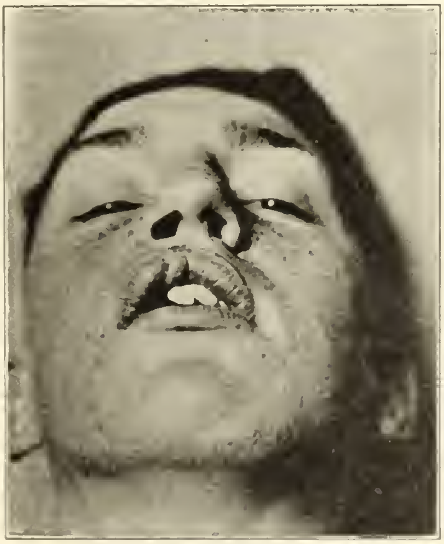
a single cleft palate occurred, out of two litters in one year (about twenty-one jaguars). (Brophy's Surgery, pages 579-80).

On the other hand, Mall's investigation on the collection of monsters at Johns Hopkins is at least suggestive that the primary factor is located in the embryo.



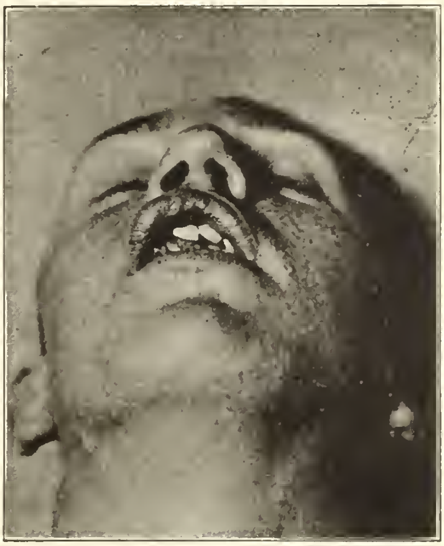
Case 2. Plate 1.

It has been my experience, when possible to obtain a good history of a family, that almost always a record of cleft palate was noted. In a case which I reported a few years ago, where all knowledge of cleft palate history was denied, close study revealed a very small niche in the upper lip, left side, of the mother. Then, too, parents are reluctant to give their true history, so it is often difficult to trace heredity.



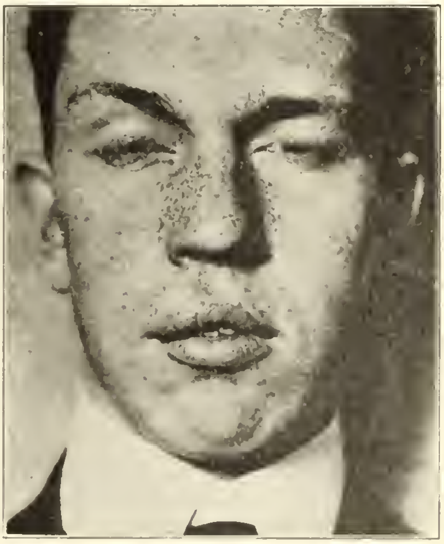
Case 2. Plate 2.

As a general thing nature does not fail to provide sufficient tissue to form a normal child with normal palate, but often fails to bring the parts in apposition so union will result, so we are consequently dealing with a true arrest of development.



Case 2. Plate 3.

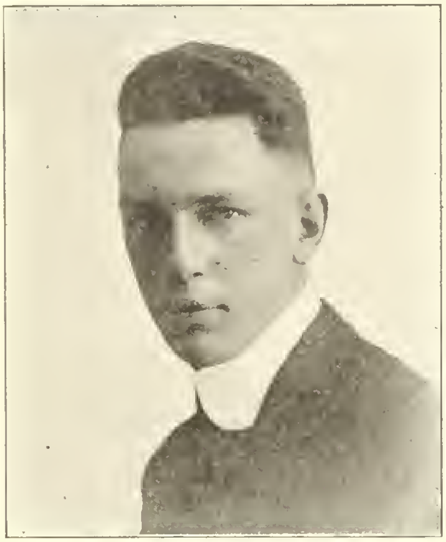
No doubt faulty metabolism may play an important role in certain few instances. However, it is my belief that the child may be generally a weakling and yet be normal as to formation of parts.



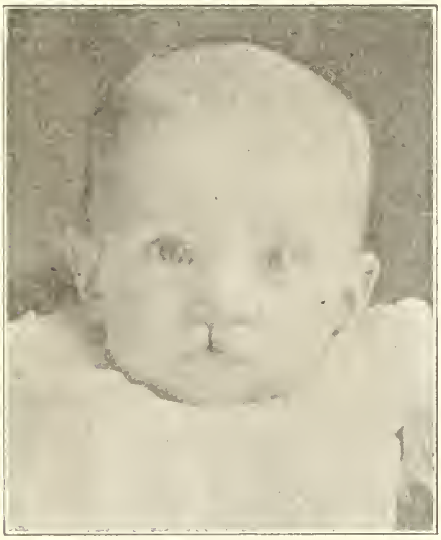
Case 2. Plate 4.

It has been stated by Professor Warnekros that supernumerary teeth are always the cause.

The late Dr. C. F. W. Boedecker attributes the cause to intervening mucosa in tooth formation, as the mucosa during formation of the teeth dips deep down into the submucous tissue and forms the epithelial lamina, which later contracts into the epithelial cord at the distal end of which the enamel organ is formed, thus forming an obstruction in union of the tissues.

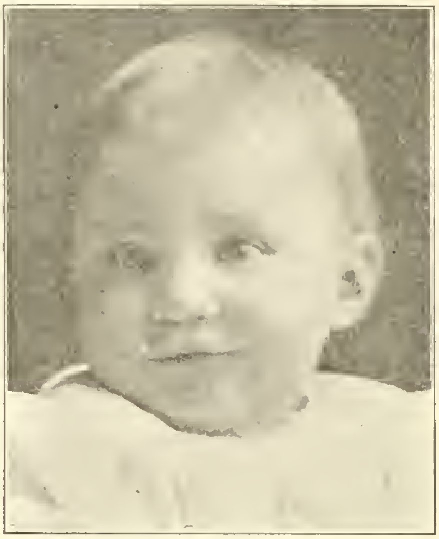

Case 2, Plate 5—About one year later.

Brophy says, "It seems that Boedecker's conclusion that this epithelial cord delays union of the parts forming the maxillae, and the force exerted by the tongue and mandible from the beginning of the third month until birth and several months later, would account for the broad separation of the maxillary bones and the creation of the cleft."


Case 3, Plate 1.

Uterine inflammation and venereal disease: no doubt venereal diseases are the cause of many physical defects, also uterine inflammation may affect the development of the palate, as it does many other parts of the body.

Doctor Charles Mayo believes and has said, "There is a great principle involved in the causation of birth deformities, and it is one which should explain various types of deformities. As one observes birth defects or anomalies it is apparent that many of them are normal conditions in some lower type of life, e. g., harelip, cleft palate, fissure defects, etc. Anomalies in circulation, multiple ureters, location of organs, and defects due to changes in the evolution of the invertebrate to the vertebrate, which largely affect the nervous system, acephalus, hy-


Case 3, Plate 2.

Case 4, Plate 1.

drocephalus, spina bifida, club foot, and post-anal dermoids.

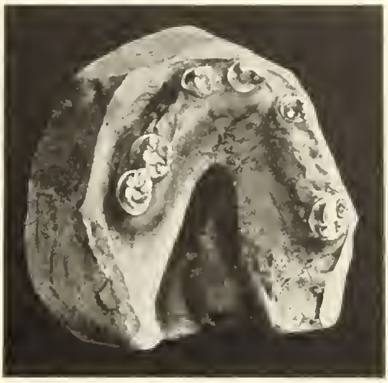
Experimentally, changes in the salts in which the eggs of several of the lower forms of life are developed, lead to a certain percentage of anomalies. This is undoubtedly the reason why a high type of fish, like the salmon, probably in an evolutionary state, leaves salt water to lay eggs in fresh water.

Case 4. Plate 2.

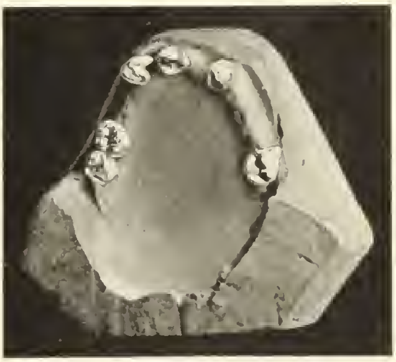
Case 5. Plate 1

Anomalies in the human embryo occur in variation of fluid, especially excessive quantity of hydramnion. It is most probable that the cause of embryonic deformities is due to changes in the salts of the amniotic fluid in which the egg is developed, just as it has been proved to be in the lower types of life."

We are therefore inclined to conclude that whether from inflammation of the female pelvic adnexa, or from a more subtle cause, the early nutrition of the embryo is interfered with, thus producing a disharmony of the growth energies.

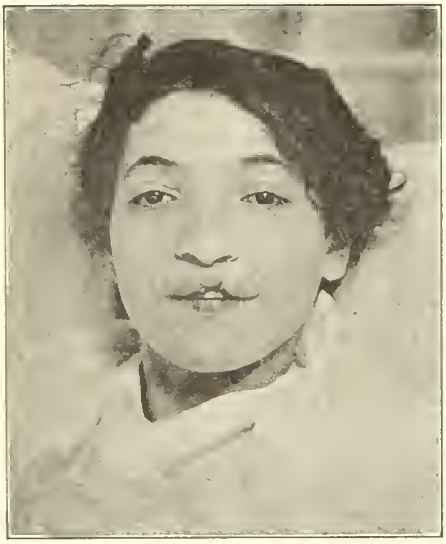

Case 5, Plate 2.

Exciting Cause: The tongue is thicker between the second and third months of intrauterine life than it is at birth, and consequently takes up more space between the developing bony plates of the palate, thus interfering with their meeting and union. The muscles of mastication becoming active about the third month brings pressure from the mandible on the flexible bones of the palate, serving as a wedge, forcing the halves apart, resulting in a much wider breach.


Case 5, Plate 3.

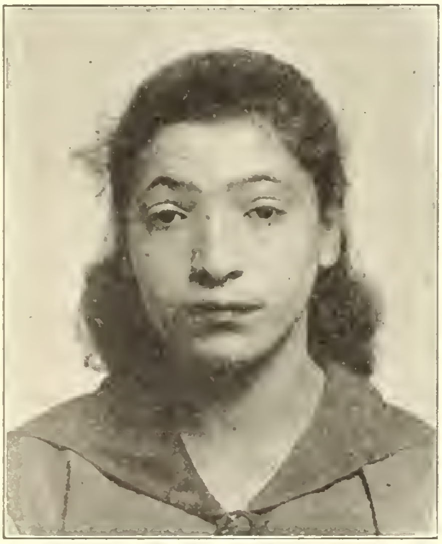
Normally, the upper jaw from tuberosity to tuberosity is smaller than the lower jaw. If careful observations are made of a child with complete cleft of the hard and soft palate, it will be found that the upper jaw overlaps that of the lower. This makes it easy to see how the mandible may and does spread the two halves of the upper arch.

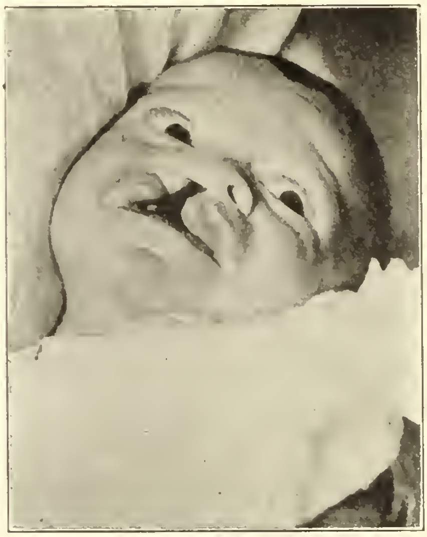
The normal position of the fetus in utero is such that a great part of the body weight may be thrown upon the vertex, and the pressure exerted tend to force the mandible into contact with the sternal region, and compress it against the forming hard palate. The head being in a flexed position, with the symphysis of the mandible resting on the sternum, may add to the force exerted by the mandible.


Case 6. Plate 1.

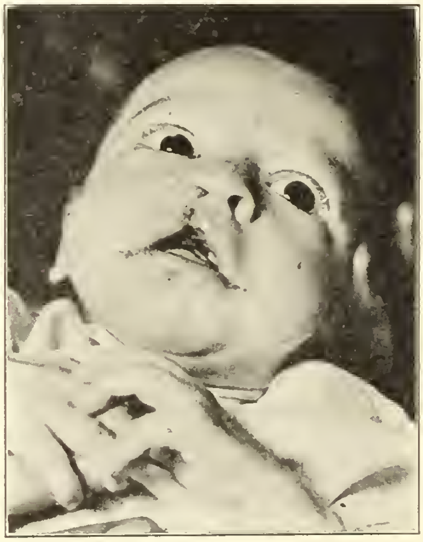
Physiology.

It is most difficult for a child with cleft palate to swallow, and to draw its milk, and as a result they are very poorly nourished. The milk taken, in the act of swallowing, regurgitates through the nose, a most distressing and pathetic sight. Doctor Brophy has designed a nipple which is here shown that enables the child to take its food with little difficulty, and it is surprising how quickly they recognize this and poke their noses around in search for the nipple before beginning to nurse from the mother. He has also designed another nipple for the bottle babe, made on the same principle. I have been convinced many times that the value of feeding the infant preparatory to surgical intervention was sadly overlooked. Failure to secure proper nourishment is a valid reason for early operation.


Case 6. Plate 2.


Case 7, Plate 1.

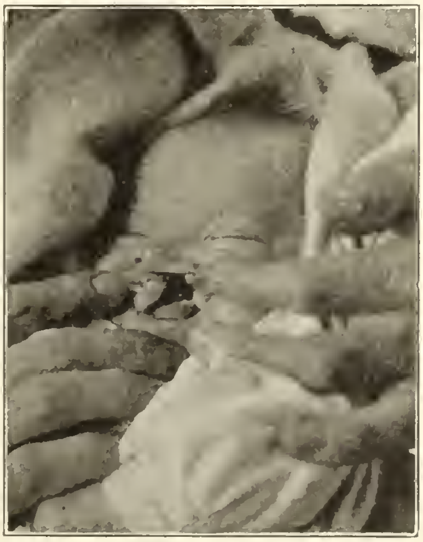
The anatomy of the palate will not be considered in this paper, other than to state that there are, as classified by Brophy, fifteen forms of cleft palate, and that the form decidedly governs the time of operation, etc.

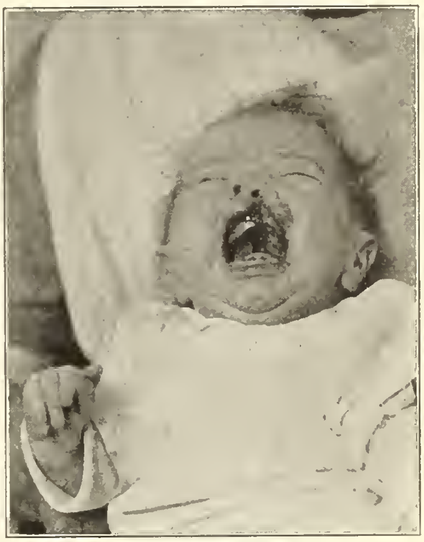

Case 7. Plate 2.

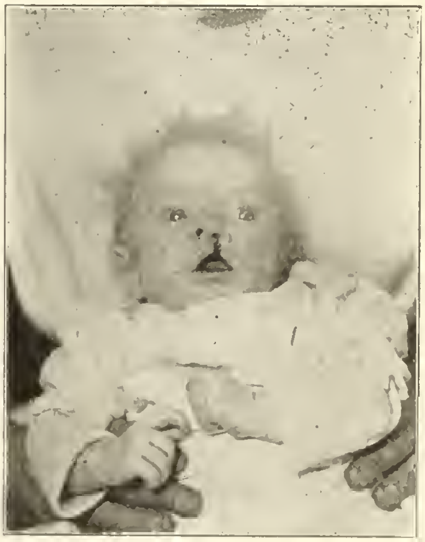
Treatment.

It must be borne in mind that the palate is one of the most important organs of speech, and it being directly attached to the larynx makes it a most valuable factor in voice production. The articulation of consonant sounds is very difficult for cleft palate children. I recall one young lady twenty-seven years old living in California, for whom I operated an extensive cleft palate, who had much difficulty in learning to talk. I kept in correspondence with her for two years, directing her in learning to speak over again. Great patience should be manifested for those so afflicted, as they have more trouble than we are able to appreciate and are almost always too timid to seek our cooperation. We must remember that the closure of the palate is not the only thing sought for, the most important by far is presenting to the patient a flexible, resilient palate which is so much needed in speech, etc.

Case 7. Plate 3.


Case 8. Plate 1.


Case 8. Plate 2.


Case 8. Plate 3.

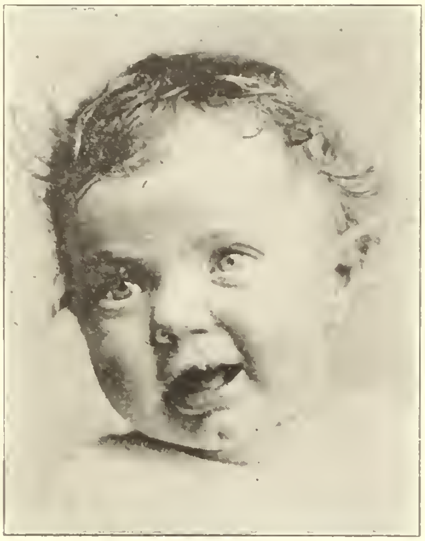
A babe with complete cleft palate and either single or double harelip should be treated in three steps as follows:

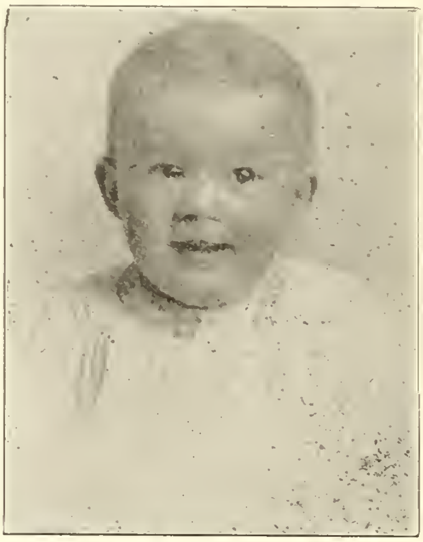
No. 1. Bone surgery. If possible within the first month.

No. 2. Lip and nostril. Six weeks after the bone operation, or earlier if the bone operation has been a success and the splints removed.

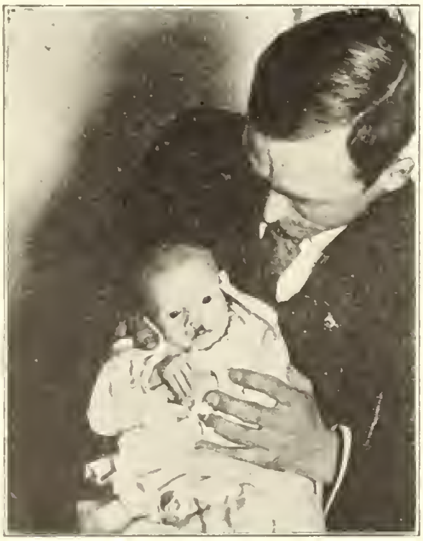
No. 3. Soft Palate. About the 14th to 16th month preferably.

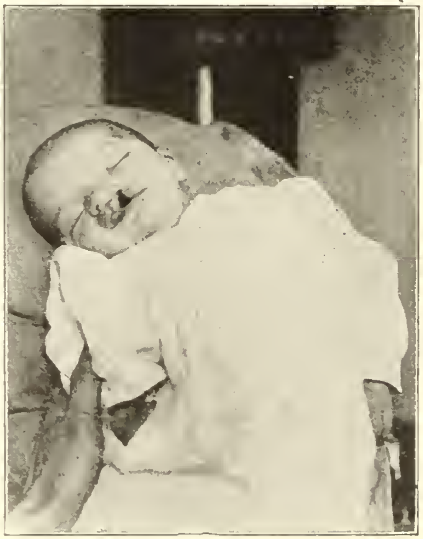
The general condition of the babe should be considered carefully. Too often these children are brought to the hospital and operated at once. Then in a couple of days a cold develops which may have been picked up on its way there, which added to the anesthetic and operation may result in a pneumonia and death.


Case 8. Plate 4.


Case 9. Plate 2.

The bone surgery should be done early before ossification has advanced, the bones being more easily moved to the position desired, and the shock is much less to the patient. At birth the bones are about half organic matter and easily bent.


Case 9. Plate 1.

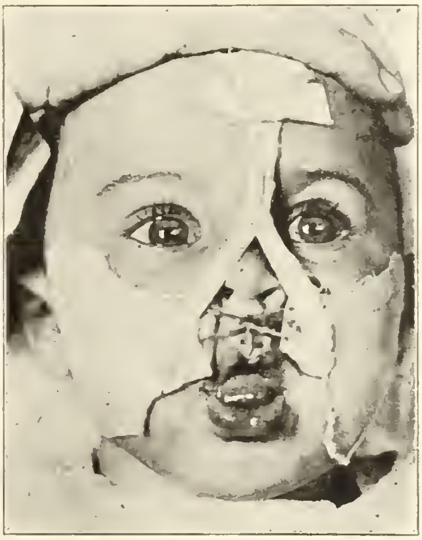

Case 10. Plate 1.

When there is double cleft with premaxillary protrusion, **this pre-maxillary bone must never be excised.** A deformity follows which is by far greater and more difficult to repair than that originally presented. It is in fact a calamity that cannot be repaired. With the excision of the pre-maxillary bones go the tooth germs and the child is forever missing temporary as well as permanent teeth. **They must be put back in position to form a normal arch.**

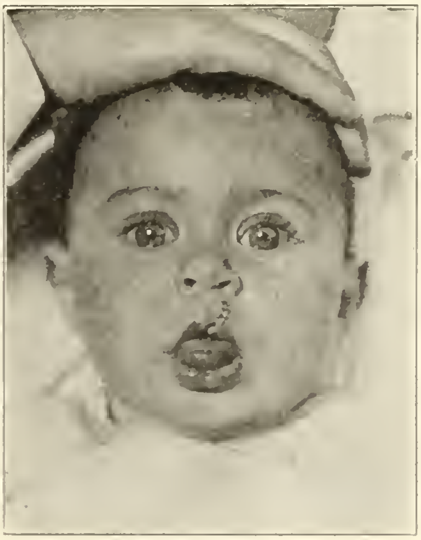
Operations performed in early infancy afford the best results, yet very successful operations may be made at almost any time in life.

It cannot be too frequently repeated that the first undertaking should be the closure of the cleft of the bones, because herein lies the success of the subsequent operations. With proper technic following, the normal physiological functions of the palate are restored.

It seems to me to be almost useless to endeavor to outline the steps of this work in detail, as it is a physical impossibility to get surgery from books or papers. It must be gained by assisting or carefully watching the work done many times, the same as any and all other surgical procedures. The many complications encountered in this field try the ingenuity and patience of the surgeon to the very utmost.

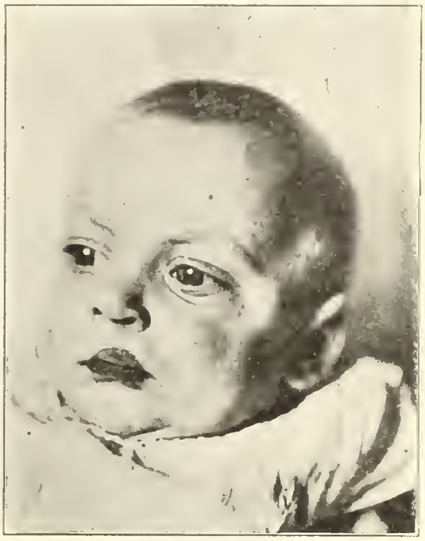


Case 10, Plate 2.



Case 10, Plate 3.

Certain definite steps must be carried out to give the child a flexible, resilient palate. A specially designed periosteal elevator should be used to perfectly separate the soft tissue from its periosteal attachment. Great care is necessary in the very initial step of passing through the muscular mucosa down to the periosteum in the process of lifting the soft tissue. It should be freed all along the posterior border of the horizontal plates of the palate bones, extending down and back of the hamular process on either side. Very rarely is this accomplished in cleft palate surgery.

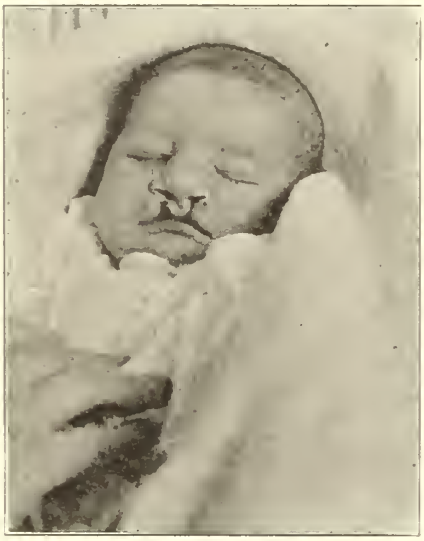


Case 10, Plate 4.

When the horsehair coaptation sutures are placed, no tension can be allowed, or sloughing will follow and the operation result in failure. It is necessary at this time to place tension sutures of silver wire supported by lead plates to prevent tension on the horsehair sutures, as described above.

Case 11, Plate 1.

In this operation post-operative care is most essential. Isolation of bacteria being impossible it is necessary to carefully irrigate the parts after each feeding, and in some cases a half dozen times a day. When it is impossible to isolate an organism, it must be combated by other means, and in this instance constant irrigation is considered one of the laws of success.


Case 11, Plate 2.

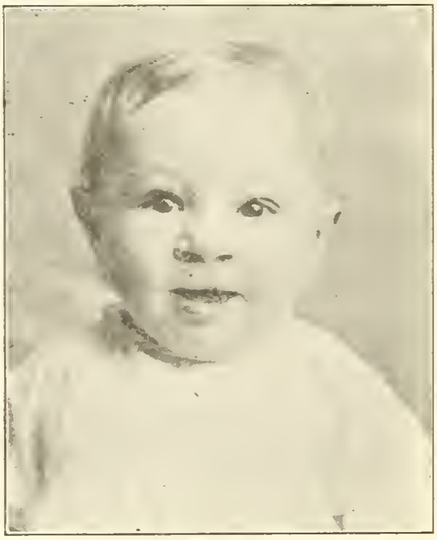
In the last two operations, namely, the lip and nostril, and the soft palate, great care should be exercised not to traumatize the tissue more than is necessary, as sloughing, particularly in the soft palate, is apt to follow.

Case 11, Plate 3.

Lateral incisions in the soft palate should never be made (they are unnecessary) because in so doing the tensor palati muscle and nerve are very likely to be severed, and once severed do not reunite. Following in the wake of this unfortunate procedure is deafness, owing to the fact that by traction in the act of swallowing and speaking the tensor palati muscle dilates the pharyngeal orifice of the eustachian tube.

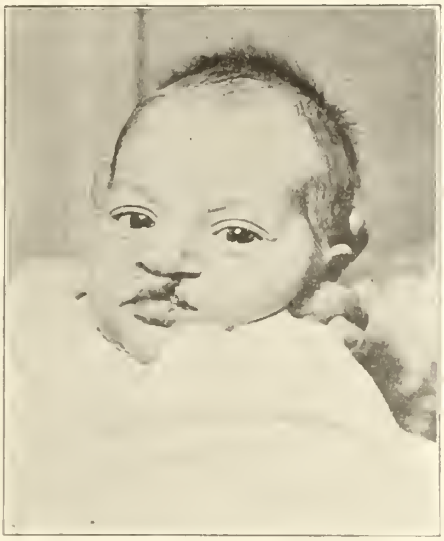
Case 11, Plate 4.

Permanent sutures left in the mouth at the completion of any of these operations should be silver wire, lead plates and horsehair, for the reason that they do not absorb the saliva which is constantly contaminated with different forms of bacterial life. Older cases are not complete until speech training has been initiated.

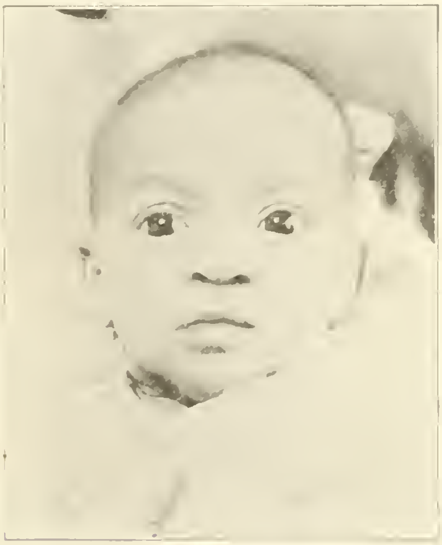

Case 11, Plate 5.

Summary of Plates.

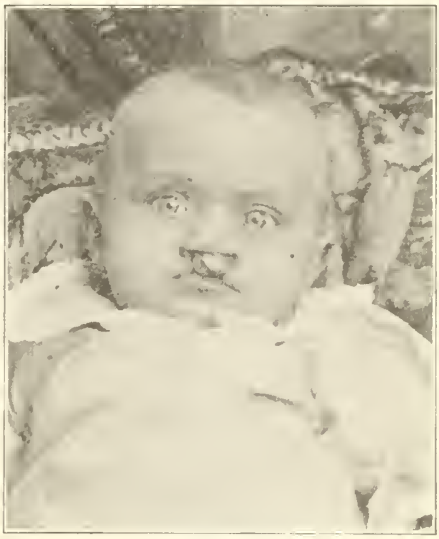
In case 1, plates 1 and 2, I call your attention to the marked pre-maxillary protrusion. In former years this premaxillary bone was often severed, thus making a deformity far greater than that originally presented, a condition which is impossible to restore. With the excisions of the pre-maxillary bones go the temporary as well as permanent tooth germs and the child forever misses these teeth. Later on in life some mechanical device must be made to partially restore normality. In plate 3, the pre-maxillary bones have been placed in proper position to form a normal arch. Notice is called to the flat nose which sometimes occurs in placing the pre-maxillary bones into position. Especially is this true of marked protrusions. In plate 4 a broad flat nose is observed which is corrected later. Plate 5 shows a profile view of the flat nose. Plate 6 shows nose raised to normal position. Plate 7 shows nostrils approaching more nearly normality. Plate 8 taken of the father of this babe. You will notice in plate 4, mucous cysts or opening to mucous glands on the lower lip. The same mucous glands may be seen on the lower lip of the father in plate 8. This is rather an uncommon condition.



Case 12. Plate 1.

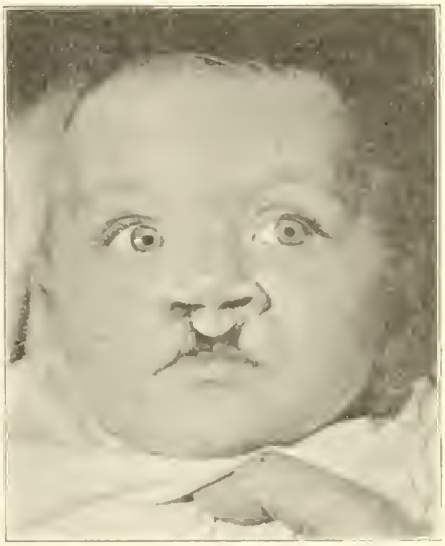


Case 12. Plate 2.



Case 13. Plate 1.

In case 2, plate 5, special attention is called to the expression of the eyes. It demonstrates most clearly a new view point in life.

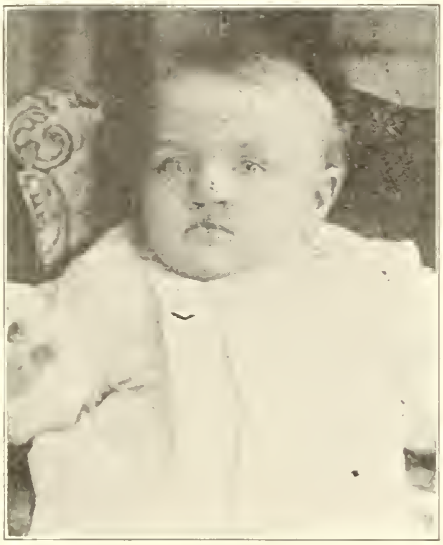


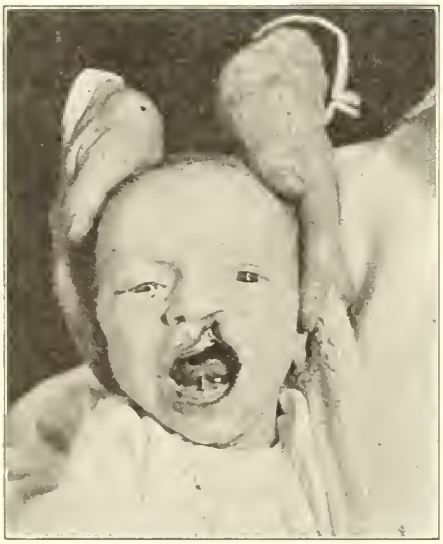
Case 13. Plate 2.

Case 4, plate 1, represents twin girls the day the horse hair sutures were removed from the lip. Both of these babes had complete single cleft palate and harelip. One of them died a few months after the first operation from a gastro-intestinal disturbance.

Plate 2 represents the living twin after the soft plate had been repaired.

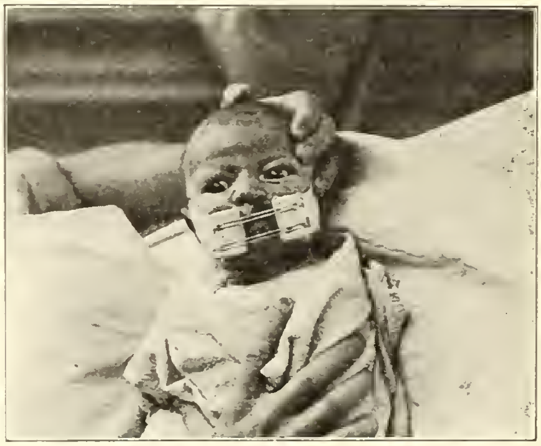
Case 5, plate 1, is the photograph of a patient who was successfully operated for an extensive cleft of the soft palate at the age of forty-four years. Plate 2 shows the size of the cleft, and plate 3 shows the palate after the operation was completed. Attention is called to the age of the patient when operated, demonstrating the fact that successful operations may be made late in life. The gratification of such patients is sufficient to repay any effort on the part of the surgeon.


Case 13, Plate 3.


Case 15, Plate 1.

Case 6, plate 1, demonstrates the appearance of an unfortunate repair made in Russia when patient was a babe. Plate 2 shows result of recent operation. Attention is called to the change in the spread of the nostrils.

Case 7, plate 1, shows a child with a broad separation of the bones, with nose greatly diverted from the median line by the deformity and held out of position by the long side of the bone. It shows a broad flattened nostril, altogether a distressing condition. Plate 2, shows the child following the operation, with the nose in the middle of the face, and the nostril more nearly normal size. The segments of the lip now lie almost in contact. In plate 3 the nostril is made to correspond in size to the normal one and the nose is restored to natural form. This case serves to demonstrate the feasibility of the early Brophy operation. A grave error is made when the closing of the lip is undertaken first, leaving a broad flattened nose and, which is much worse, a deformed arch.


Case 15, Plate 2.

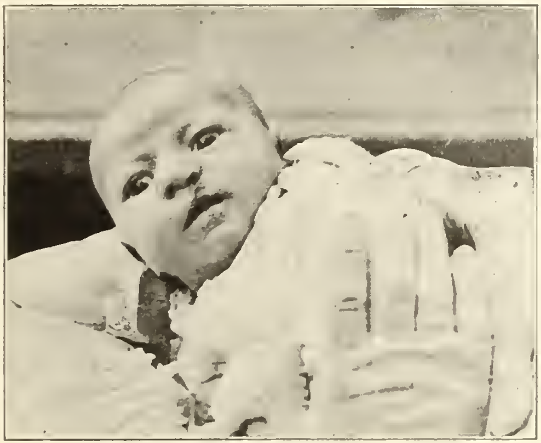
Case 8 corresponds in most of its details to case 7.

Case 10, plate 2, illustrates a later method devised by Brophy to prevent tension of sutures. Plate 3 was taken immediately after the adhesive strips were removed. Notice horse hair sutures remaining in lip.

Case 11, plate 1, represents a double cleft with double harelip and a pre-maxillary protrusion. It is this pre-maxillary bone which must never be excised. The pre-maxillary bone must be placed in normal position to form a normal arch. Plate 3, profile, demonstrates the placing of the pre-maxillary bones in their normal position thus bringing the nose into proper relationship with the face. Plate 4. immediately after repair of lip. Plate 5, one year later.

Case 12, plates 1 and 2, attention is called to the change in expression of the babe.

Case 13, plate 1, represents a baby six months old before surgical interference. One of the most important things in this field of surgery is the operation upon the bones as early as six weeks of age if possible, and much earlier in many cases if the condition of the child warrants. When a child is allowed to go for six months or more it is much more difficult to put the bones in their proper position, also the shock in the movement of the bones is much greater. Plate 2 shows the baby immediately after the pre-maxillary bone was placed in its proper position.


Case 15, Plate 3.

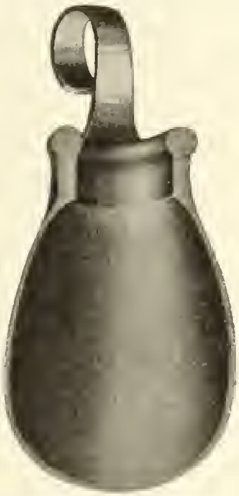


Plate 16.

Case 15, plate 1, shows babe immediately after closure of the anterior ridge of the hard palate. Close observation will reveal one end of the lead plates used as splints to hold the parts in apposition. Plate 2 shows an earlier method of relieving the tension on the sutures, not so successful as plate 2 in case 10. Plate 3 shows baby immediately after removal of the horse hair sutures.

Plates 16 and 17 represent the two types of nipples designed by Brophy to aid in feeding these unfortunates. The one with the aluminum holder is to be used when the baby nurses from the mother, the other from the bottle.

We do not hesitate long enough in our work to pay tribute to those who have been our teachers and I want to say to you, if I have accomplished anything in this field of endeavor, it is due to the teachings of Dr. Truman W. Brophy. Dr. Brophy is the well recognized master-teacher of America, if not of the world, on this subject, and I believe we young men should take time occasionally to pay tribute to those men who have so constantly advised us and directed us in our endeavors. This is their true reward. In my paper I am not claiming any particular originality. I am following the teachings of the man whose likeness has just been thrown upon the screen. Doctor Brophy is, I believe, the oldest dean in America today.

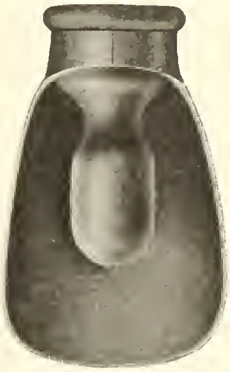


Plate 17.

References.

Brophy—Oral Surgery.
McMurrick—Embryology, 5th edition.
Chas. H. Mayo.
Broedecker.
Stohr—Histology, 2nd edition.
Baily—Histology, 2nd and revised edition.
Bromell—Histology, 2nd edition.
Piersol—Histology, 11th edition.
Howell—Physiology, 5th edition.
Maul's Works—Johns Hopkins.

Stammering—Treatment rests on the principle of educated self-control. Concrete application of this principle is directed, first, toward conscious control of the peripheral speech mechanism, and, second, toward direct control of the emotional and nervous disturbance.—E. L. Kenyon.

THE NEBRASKA STATE MEDICAL JOURNAL

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J. M. Aikin, Ex officio....Omaha

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Vol. IV. April, 1919. No. 4

The Journal and the Mails.

Readers of the Journal are advised that the mail service is to blame for any delay in the arrival of the Journal. Publication is practically on time.

NOTICE.

The new address of The Nebraska State Medical Journal is: Suite 519 McCague Bldg., 15th and Dodge St., Omaha, Neb.

Reorganization for Tasks Ahead.

This is the pivotal day to make our methods of education and practice square with the opportunity in front rather than with our history behind, splendid as that history is. Education, the fundamental mission of our organization, must not terminate with graduation day. Fortunately we have a definite plan coordinating county, district, state and national educational facilities. The most vital objective of the whole reconstruction effort is stimulating the county and councilor district societies to a realization of their educational privileges so clearly outlined in our county and state constitution and by-laws. On the return of our members from military to civil life, they will recognize the opportunity for service as too big, and the issues too acute and vital for solution by the old volumn of effort. Themes presented for discussion in the scientific sessions of our State Association meeting will evidence a vision of possibilities by our organized effort in reconstruction work, we would have scorned as wholly impractical four years ago. Is it not possible, even highly probable, that our efforts for securing legislation in the interests of the people for more rational medical service, sanitation and prevention of disease, have been misdirected energy? The plan adopted by the profession in Ohio of placing the initiation and enactment of medical laws on their legislators, advising with them only when consulted, seems a wiser course to pursue. If through ignorance the people are duped by uneducated pretenders of the healing art, their bad judgment cannot be chargeable to selfish motives of the regular medical profession. Moral desires intelligently directed, bring beneficient results.

System and the Collection of Vital Statistics.

Recently the profession was circularized by the State Department of Health on the apparent failure of the profession to fully report births, and the suggestion was made that it was probably due at that time to the intense strain visited on the profession by the prevailing pandemic. Nebraska has never been able to take its place in the Census Bureau's approved Area of Vital Statistics.

The writer desires to point out what he has for years considered one of the principal causes for the failure of the authorities to get the desired information. Briefly, it is an unbusinesslike, unsystematic, loose-leafed jumble of blank forms, "thrown at" the profession, at irregular intervals, without system, and apparently without definite aim. It must be apparent to everyone that system is the outstanding feature of the success of any undertaking. Would a business man aiming at success expect results from methods such as are used in gathering vital statistics? Hardly.

The physician gathers the information for report of births at the bedside. The report to be correct must be filled out at the source of information. Common sense dictates that every convenience be afforded the physician to do this. The blanks furnished for this purpose should be bound into booklets of say 25 with an indelible pencil on a string attached. The blank post cards for supplemental birth reports should likewise be bound into booklets. A strong manilla envelope to encase the blank forms for convenience in carrying in the obstetric bag is also needed.

The blanks for other purposes, notably contagious diseases, should similarly be bound into booklets of a definite number so they may be kept in some semblance of order.

Better still all blank forms should be furnished in duplicate forms (with carbon sheets) so the maker may have a copy for reference and for check. The U. S. Weather Bureau knows how to get results from thousands of voluntary observers to whom are supplied bound blanks, carbon sheets, and pencils. Reports are made in triplicate, and the observer retains a copy for reference. The world knows that the Weather Bureau gets results worth having.

During the epidemic when state wide quarantine was inaugurated, the writer suggested bound blank forms in duplicate, to the secretary of the county board of health. The suggestion was immediately adopted and proved its convenience and success.

We are not throwing clubs at any official or individual; we are criticising a method old as the State Board, in hopes of remedying its undoubted shortcomings.

F. A. L.

STATE NOTES.

Major A. C. Stokes, in charge of the surgical division of the Columbia war hospital, United States general hospital No. 1, New York City.

Dr. Samuel J. Stewart, Hastings, has been appointed a member of the advisory board to the state board of health, succeeding Dr. Hall H. Humphrey, Daykin.

Dr. and Mrs. H. W. Quirk, of Crete, started April 7th for an extended auto trip through the south, on a combined business and pleasure trip. They expect to be gone a month.

Dr. A. E. Gadbois, formerly of Humphrey and Madison, a former captain in the Medical Corps, has taken special training in eye, ear, nose and throat work and has located at Norfolk.

Dr. I. M. Sonneland, Norfolk, has been discharged from the Medical Corps of the Army and has resumed practice at Norfolk. Dr. Sonneland had six months service in France. A son born during his absence greeted him on his return.

It is reported to the Journal that Dr. Czar C. Johnson, formerly of Creighton, who entered the Medical Corps of the Army in July, 1917, as a lieutenant has risen through the several grades to that of lieutenant-colonel. He is with the overseas army.

Dr. Henry B. Ward, formerly Dean of the Nebraska School of Medicine, and Professor of Zoology at the Nebraska State University, now head of the Department of Zoology of the Illinois State University, is the author of the article on Ocular Parisites in the newly published American Encyclopedia of Ophthalmology. The article is also reprinted in a ninety page pamphlet.

COUNTY SOCIETY NOTES.

The regular meeting of the Richardson County Medical Society was held at Falls City, April 2nd. The program was Blood—Transfusion and Typing—by Drs. Shook, Egermayer and Fouts.

The Lancaster County Medical Society and the Lincoln Dental Society gave a dinner February 15, 1919. This was followed by a symposium on Dental Infections by Drs. Arthur L. Smith, R. W. Ludwick, C. Emerson, R. L. Smith and William Shearer.

Nebraska Officers Honorably Discharged, Medical Corps, U. S. Army.

March 1.

Lieut. R. W. Fouts, Dawson; Capt. W. P. Henry, Omaha; Lieut. G. H. DeMay, Wilsonville.

March 8.

Lieut. R. F. Decker, Byron; Lieut. H. H. Johnson, Collegeview; Capt. H. B. Lemere, Omaha; Capt. O. H. Magaret, Papillion; Lieut. W. Shepherd, Rulo; Lieut. R. E. Roche, Sidney.

March 15.

Lieut. J. M. McNally, Bellwood; Major P. H. Bartholomew, Blue Hill; Capt. B. R. McGrath, Grand Island; Lieut. H. B. Metheny, Lincoln; Capt. A. D. Munger, Lincoln; Capt. F. L. Frink, Newman Grove; Major E. C. Henry, Omaha; Capt. W. H. Mick, Omaha; Lieut. V. V. Talcott, Omaha; Lieut. A. J. Smith, Salem; Capt. M. Wood, Tekamah.

March 22.

Capt. F. D. Burgess, Cedar Rapids; Lieut. F. W. Scott, Lodge Pole; Lieut. H. E. White, Swanton.

March 29.

Lieut. A. N. B. Lemoine, Nelson.

Nebraska Medical Officers, U. S. Navy, Relieved from Active Duty.

B. G. Bailey, Wauneta.

Orders to Nebraska Officers of the Medical Corps, U. S. Army.

March 1.

To Fort Des Moines, Iowa, from Camp Dix, Major E. C. Henry, Omaha.

To West Point, N. Y., from Biltmore, Major F. J. Wurtele, North Platte.

March 8.

To Detroit, Mich.. from Camp Dix, Major J. M. Patton, Omaha.

To report to the commanding general, Western Department, from Camp Cody, Major L. B. Sturdevant, Lincoln.

March 15.

To Camp Greene, N. C., base hospital, from Camp Jackson, Capt. C. H. Newell, Omaha.

To Fort Crook, Neb., from Camp Meade, Lieut. E. O. Wilson, Madison.

To Fort D. A. Russell, Wyo., to examine the command for nervous and mental diseases, from Camp Dix, Capt. G. W. Dishong, Omaha.

To Fort Des Moines, Iowa, from Camp Bowie, Lieut. C. W. Way, Wahoo.

To Fort Leavenworth, Kan., from Fort Riley, Lieut. A. A. Smith, Hastings.

To Fort Omaha, Neb., from Camp Dix, Capt. R. S. Hart, Schuyler.

To Fort Porter, N. C., from Camp Greene, Capt. L. C. Bleick, Omaha.

March 22.

To Camp Dodge, Iowa, base hospital, from Camp Logan, Capt. F. A. Wells, Axtell.

To Camp Jackson, S. C., base hospital, from Camp Greene, Capt. C. H. Newell, Omaha.

To Fort Des Moines, Iowa, from Camp Dix, Major H. W. Orr, Lincoln.

To Fort Leavenworth, Kan., from Fort Sheridan, Capt. D. C. Hilton, Lincoln.

March 29.

To Walter Read General Hospital, D. C., from Camp Dix, Capt. C. T. Uren, Omaha.

APPLICATION FOR MEMBERSHIP IN THE MEDICAL VETERANS OF THE WORLD WAR

City ....

County .... State ....

No.................. Street ....

Date ....

I hereby apply for membership (or associate membership) in the Medical Veterans of the World War. I served during the period of the war as indicated below, as

1. An officer in the Medical Corps of the United States Army.

2. A Medical Officer in the United States Navy.

3. A Medical Officer in the U. S. Public Health Service.

4. A Contract Surgeon, United States Army.

5. An Acting Assistant Surgeon, U. S. Public Health Service.

6. A Medical Member Local Board No..................

at ....

7. A Medical Examiner Local Board No..................

at ....

8. A Member of the Medical Advisory Board

at ....

I was appointed to the position checked above by

....

I served from ....

to ....

I served in (The U. S. or in a foreign country; state where) ....

during the period from ....

to ....

as ....

....

(Brief history of service, giving units, dates and positions held; use reverse of this sheet and attach additional paper if necessary).

....M. D.

(Full name of applicant)

Application for membership, with fee of $1.00, should be mailed to the secretary, Col. F. F. Russell, M. C., U. S. Army, Army Medical School, Washington, D. C.

Constitution and By-Laws of the Medical Veterans of the World War.

Article 1.—Title. The name and title of this organization shall be The Medical Veterans of the World War.

Article 2.—Object. The object of this Association shall be to perpetuate fellowship, to prepare history, secure cooperation for the mutual benefit of the medical men who served in the World War, 1914-1918, and for the mutual improvement and social intercourse of its members.

Article 3.—Classifications for Membership. Sec. 1. The members of this Association shall be divided into two classes: (1) members and (2) associate members.

Sec. 2. The following persons shall be eligible to membership in this Association.

1. All medical officers, contract surgeons of the United States Army and acting assistant surgeons of the United States Public Health Service who have served in the Medical Corps of the United States Army, United States Navy, and United States Public Health Service.

2. All medical members and medical examiners of Local, Medical, Advisory and District Boards, officially appointed by the President of the United States, the Provost Marshal General of the United States Army, and the Governors of the various states.

Sec. 3. The following persons shall be eligible to associate membership in this Association:

Members of the medical profession of Allied patrons who have been in the service of their governments during the World War.

Sec. 4. Associate members shall enjoy all the privileges of membership except the right to vote at the annual meeting.

Write to Dr. A. F. Jonas, Brandeis Bldg., Omaha, Nebraska, for the above applications. There will be a special meeting called during our Nebraska State Association Convention to organize the Medical Veterans of the World War, of Nebraska, in order that we may report to the National Association Meeting held at Atlantic City, N. J., June 9-13. This meeting will be on the 13th of June.

DEATHS.

James Woods, Schuyler, Neb.; Western Reserve University, Cleveland, 1870; aged 74; at various times physician of Schuyler and Colfax county; a veteran of the Civil war; died at his home, March 12, from arteriosclerosis.

Private Library.
DR. C. C. HICKMAN.

THE NEBRASKA STATE
MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

NEXT ANNUAL SESSION, LINCOLN, MAY 19, 20, 21, 1919.

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The Immediate and Ulterior Results of the Great War in Their Relations to Medical and Surgical Practice, and to the Matter of Disease Prevention.[*]

J. M. Banister, M. D., Colonel U. S. Army, Retired.

The great war has surged over the world. Germany and the other nations constituting the Central Powers have been overcome by force of arms. We, as American citizens, may well be proud of the part which our great nation has played in this war, for America has saved civilization—has preserved the liberty of the world.

We members of the American Medical profession, however, have something else to be proud of—something even more intimately connected with ourselves. We should indeed be filled with pride at the accomplishments of our profession in this great crisis, which our country has been required to face—a crisis, which has endangered the very existence of our nation.

The medical profession of this country was called upon to make enormous sacrifices upon the altar of patriotism in consequence of this war. When we entered the war, the medical corps of the regular army consisted of less than 450 officers. When the armistice was signed, the personnel of the officers of the combined medical corps had been increased to more than 32,000. Besides, about 3,000 medical men had entered the naval medical service from civil life. These members of our profession left their homes and families, and sacrificed their incomes in order that they might do their parts in this great struggle against the overwhelming ambitions of the military autocracy of Germany, which included in its calculations the invasion of our own country. The manner, in which they performed their part, both upon the battle lines and in our hospitals over there, and in this country, is now a matter of history.

These medico-military men are now filtering back, and within a short while all will have returned except those, who have made the extreme sacrifice for their nation and for their fellow-soldiers. They are bringing back with them an invaluable fund of experience in surgery, in medical practice, and in disease prevention, which will prove of inestimable value to the profession of our country.

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[*] President's address at the meeting of the Nebraska State Medical Association, May, 1919.

Let us now in a cursory manner refer to a few of the medical and surgical advances resulting from this war.

The extreme importance of the sputum-borne diseases has been accentuated by the observations made during this war period. No one has presented this subject in a more forcible manner than has Colonel Edward B. Vedder of the Medical Corps, U. S. Army. In his "Welcome Prize Essay" for 1918, he furnishes a series of deductions of the highest practical value along the line of the epidemiology of the sputum-borne diseases, in which classification are included tuberculosis, pneumonia, influenza, tonsilitis, bronchitis, measles, mumps, scarlet fever, whooping cough, diphtheria and cerebro-spinal meningitis.

Colonel Vedder makes the statement that in consequence of our increase in knowledge concerning the so-called deficiency diseases, of which scurvy is the type, these affections, formerly so important and so destructive in their results, have been virtually eliminated from military consideration. Likewise the intestinal diseases as typhoid fever, the various types of dysentery, and cholera, have been brought under control to such an extent that they no longer constitute the military menace of years gone by.

Vedder considers, from a careful consideration of the records of the Medical Department, that for practical purposes in this war, military medicine consists of only three chapters: "Chapter I, The Sputum-Borne Diseases; Chapter II, The Venereal Diseases; Chapter III, The Insect-Borne Diseases."

The records show, according to Vedder's researches, that the admission rate, death rate, rate of discharge, and non-effective rate are all highest for the sputum-borne diseases.

The importance of the sputum-borne affections, the means of transmission through droplet infection in these most common and destructive diseases, have been thoroughly brought out during the present war, and the knowledge so obtained cannot fail to be of vital and transcending importance to the general profession, and through the efforts of the profession, to the laity.

Disease prevention will probably score further triumphs in consequence of this acquisition of knowledge rendered possible by concerted and systematic studies in the epidemiology of the affections enumerated among large bodies of troops.

The occurrences of the war in Europe, the conditions which have arisen among the populations of such stricken countries as Russia and Serbia, have furnished wholesale and distressing proof of the fact that typhus fever is transmitted from the sick to the well through the instrumentality of the louse, thus serving to clinch the findings of that martyr to scientific investigation, Howard Taylor Rickets of the Public Health Service of the United States, who lost his life in Mexico from the bite of an infected louse while conducting his great experiments along the line of typhus infection.

It has also been proved at the front in Europe that that distressing and disqualifying disease, which has received the name "Trench Fever," is also transmitted through the louse.

In consequence of the concentration of large bodies of troops by reason of the mobilization of several million men, we have been able to secure wholesale evidence of the fact that typhoid fever can be eradicated, and that the Medical Department of the Army was eminently correct in its former opinion in this regard. This disease has been eliminated from the military service, and the increased experience of the war has made plain to the medical profession the way to eradicate it in civilian communities.

Also in consequence of the late great aggregation of troops in this country and abroad, large numbers of medical officers have been trained in the matter of chest examinations. The campaign waged against tuberculosis in the service, has served to create a host of experts in this line of diagnosis who will take back with them to civil life, the skill which they have acquired in this direction. The knowledge so gained with reference to the means of invasion of the human body by tuberculosis, and the recognition of the almost universal prevalence of this infection in our population, will be of the greatest value to medicine. In this connection, the chest examinations of our new levies have proved that the great majority of our recruits had been infected at some time, while only a small proportion were found to be suffering from the disease in active form.

Many of our returning medical officers will have acquired marked skill in the detection and interpretation of cardiac anomalies, owing to the immense experience, which has come to them in this line as the result of their military service.

The enormous value of the practical application of the teachings of sanitary science on a systematic and efficient scale, will have been impressed upon the medical officers of the army by the exigencies of the service, and this experience must of necessity bear fruit, when they return to their homes, in the direction of promoting a more definite policy in the matter of disease prevention from the public standpoint.

The enlisted men of our military forces will also have received an object lesson in the possibility of preventing and eradicating infectious diseases, which will serve to leaven the views of the civilian communities, to which they may return at the end of their service, which fact may be of national importance in awakening an interest in matters of public health.

One great and encouraging triumph resulting from the methods of disease prevention instituted by the medical corps of the Army, has been the marked change for the better in the relation of the disease and battle death rates. In our former wars the death rate from disease has been startling in comparison with that resulting from battle casualties. Since the war of 1812, we have had the following results in this regard, as lately given out by the Chief of Staff:

	Battle death rate	Disease death rate
Mexican War	15 per 1000	110 per 1000
Civil War (North)	33 per 1000	65 per 1000
Spanish War	5 per 1000	26 per 1000
Present war A E F	57 per 1000	17 per 1000

The Chief of Staff states furthermore, in the information given out in the press, that but for the occurrence of the epidemic of influenza, this death rate would have been cut in two. The influenza was an affection that we were unable to guard against for obvious reasons, and it attacked our troops with fearful virulence, about doubling our disease death rate.

In the matter of surgical practice, important advances have been made in consequence of the war. In the case of gunshot wounds the universality of infection was soon recognized. The infective organisms chiefly at fault were soon found to be the tetanus bacillus, the gas bacillus, (bacillus aerogenes capsulatus of Welch), the streptococcus hemolyticus, and the usual pyogenic organisms. L. A. LaGarde of our service had shown in the '90's that in the act of firing, the modern bullet is not sterilized by the heat of the explosion. This fact has been accepted at the front, and all wounded men considered to be infected by whatever type of projectile their wounds were caused. For many centuries the soil throughout the territory over which the fighting was carried on in Europe, had been subjected to intensive cultivation, and this soil was universally teeming with anaerobic micro-organisms of a high degree of virulence, chiefly tetanus spores and gas bacilli.

The universal administration of antitetanic serum at the front to all wounded, as soon as possible after injury, has saved thousands of lives, and careful watching for the first symptoms of gas infection has had a life saving result of great value.

These facts should present a valuable object lesson to the civilian surgeon.

A remarkable advance in military surgery at the front has been the use of blood transfusion, the blood being preserved in sterile flasks. This work was directed by Col. W. E. Cannon, M. C., Professor of Physiology at Harvard, and Director of the Physiological Laboratory at the Central Medical Laboratory A. E. F. Sodium citrate was used to prevent coagulation of the blood. A very simple standard outfit was provided and medical officers were detailed to take a special course in this method of transfusion. Each was then supplied with an outfit and sent out to perform transfusions.

Of course, no blood was taken from a diseased individual. It is an established fact that the blood serum of some individuals will cause destruction of the red blood cells of other persons. Jansky and after him Moss of Johns Hopkins has shown that it is possible to classify all individuals into four groups in this regard. In our hospitals in France, those selected to be "donors" were grouped and listed. An injured man in serious shock from loss of blood, would be listed and the group to which he belonged determined. A "donor" was chosen, who belonged to the same group. Substitutes for blood were also prepared, that prepared and used for American forces being a sterilized 6 per cent solution of gum acacia in normal salt solution.[2] By these means many lives have been saved, and a valuable hint given the civilian surgeon in combating shock from hemorrhage.

A great advance in the surgery of the injured was introduced at the hospitals at the front by means of the primary and secondary closure of extensive wounds of the soft parts. The great cause of failure in these cases, when such occurred, was found to be the presence of the streptococcus hemolyticus. Bunce, Berlin and Lawrence in their report of the results of such infection of wounds in Base Hospital No. 43, show that "in a series of 1848 cultures made on 985 consecutive war wounds, streptococcus hemolyticus was isolated in 24 p. c. of the wounds, and that "the presence of this organism is the chief cause of failure in the use of the secondary suture."[3]

The moral is this, that in applying this method of treatment in extensive wounds of the soft parts in civil practice, the surgeon should prove in advance that there is no infection from this micro-organism.

The continuous, or intermittent, use of the Carrel-Dakin solution introduced into the depths of wounds has been proved to be most effective in controlling infections at the front—a most valuable addition to our surgical technique, therefore, and one well adapted to civil practice.

The systematic use of the X-ray in surgery has been exploited to a great degree by the result obtained in this war. Lieutenant-Colonel Merritt, M. C., who had charge of the X-ray work pertaining to the First American Army in the Argonne offensive, stated in a recent address in Omaha that with the American forces aboard, 100 per cent of the seriously wounded were X-rayed, as compared with 75 per cent in the French, and from 10 to at most 20 per cent in the English hospitals. Before operating, therefore, our surgeons had definite roentgenological data.

As a result of our military needs, the bedside X-ray outfit has been devised. This little outfit simplifies to a great degree the X-ray problem for the country practitioner in his office to diagnose traumatic conditions. The methods of localization have been so simplified and improved by the French system, that the most difficult localization can be made in three minutes, as I have been informed by Captain W. H. Mick, M. C., who has just returned from the front.

Plastic surgery of the face, orthopedic surgery, bone surgery generally, and the surgery of the nervous system have all been greatly enriched by the experiences of the war.

As stated in the earlier portion of this address, the return of so many medical officers, and of several millions of enlisted men who have seen the great advantages following efficient measures of disease prevention in the service, will serve to create in civilian communities throughout our country a sentiment in favor of an efficient scheme of protection against the invasion of preventable diseases.

The public mind may soon, therefore, be in a state to look somewhat favorably upon government control of disease conditions. This, then, would seem to be a favorable time for the beginning of efforts toward securing the creation of a Department of Public Health. or rather efforts to further direct the thoughts of our people into this channel.

In thinking along these lines in my mind's eye, I see a vision: I see the creation at our seat of government of a Department of Public Health with a secretary at its head ranking as a member of the President's Cabinet. I see a thoroughly organized governmental department, qualified in every way to grapple with disease conditions in this country, actively at work in checking the fearful ravages of preventable diseases—diseases which cause in our population, 600,000 deaths per year, and occasion an annual economic loss of one billion and a half of dollars. I see the officers of this department busily employed in preventing the importation of diseases from foreign countries through efficient quarantine restrictions, actively occupied in controlling the transfer of infectious diseases from state to state, and zealously engaged in stamping out epidemic occurrences wherever they may be found throughout the broad expanse of our land.

I see the passage, under the initiative of this department, by our national congress of acts preventing the pollution of our streams and rivers with the sewage and solid wastes of our towns and cities, thus conserving to a great degree the purity of our sources of water supply, and reducing to a minimum the danger of infection from water-borne diseases.

I see, in fine, the machinery of this great government of ours, through this Department of Public Health, applied to the object of protecting every man, woman, and child in our country from the needless attacks of preventable diseases, and thus promoting to a wonderful degree, the well-being of our population.

When this day shall come, when this vision shall be realized, then indeed will our country have earned the right to be called a happy, a fortunate nation.

Bibliography.

1. The Military Surgeon, February, 1919.
2. The Army and Navy Journal, March 29, 1919.
3. Journal A. M. A., March 15, 1919.

Methods of Dealing With Surgical Patients in a Base Hospital Center in France.

H. Winnett Orr, Lt. Col. M. C.

So many questions have been asked as to the procedure employed in dealing with patients in our work in France that it seems appropriate to give, at least in outline, a review of the method, from the administrative as well as from the surgical standpoint.

While the writer was associated with a number of base hospitals, the exact method employed rather more nearly approached perfection at the Savenay Hospital Center than elsewhere, Savenay was for some time designated as the center through which all patients must pass on their way to the United States. This included both the sick and wounded. For many weeks the number of patients sent through this center to the United States was as high as from 2500 to 3000. As many as 2000 patients were received and evacuated in a single day. The total bed capacity of the center in which five base hospitals were operating was 10,000, although on several occasions the number of patients rose to 11,000.

In organizing the work so that problems of both treatment and evacuation could be adequately met, it was necessary that several points should have careful consideration. These points were:

1. The prompt location, examination and treatment of all patients arriving in the hospital center.
2. The maintenance of certain records as to each patient's condition upon arrival and of his requirements as to operation, splinting or other treatment by way of preparation for evacuation to the United States.
3. The decision and assignment to passenger lists of all patients at a stage of treatment which would enable them to travel.
4. The final check upon departure, so that no patients departed who required immediate further treatment or who were otherwise unfit for the journey.

During August, 1918, when the first convoys of any size began to go to the United States, it was found that each of the above requirements must have careful attention, or one of several things might happen. With the large number of patients necessary to move in order to create vacant beds near the front, it was found that large numbers must be prepared for evacuation to the United States who might, under different conditions, have been deemed improper for transport. As these patients arrived in increasing numbers at Savenay, it was soon found that they must be located and treated promptly or there would be an undue accumulation of such patients. Also, even at a time when only one hundred surgical patients a day were arriving, approximately one-half required operation, revision of position, under anaesthetic, or change of splints. Also, it was found that with the demand for convoys to the United States, usually at least three to five hundred patients going at one time, there was great danger that patients would be removed from wards to the train who were unfit for travel. To meet all the requirements above, the four features found necessary to establish were as follows:

1. The cataloguing and inspection of every orthopaedic patient as he entered the hospital.
2. The written opinion of each medical officer on the patients that he saw.
3. The centralized operating, splint and plaster of paris rooms to which patients were brought for treatment.
4. A card index catalogue with a follow up system by which recommendations made by medical officers were checked up until the patient was pronounced fit for transfer.

The first centralized splint room or dispensary, established about September 1, 1918, proved one of the most helpful features. In the course of a few days it reached a capacity of from thirty to fifty patients daily. On one Sunday, after receiving a large convoy, over one hundred patients were splinted and had plaster casts applied during the day. Walking patients principally, but also a few cot cases, were brought to the splint room from all the wards and dealt with by the surgeons in attendance, as in any dispensary clinic. At this time the number of new orthopaedic patients arriving at Savenay was about 70 per day. Later, when there were two operating rooms and five plaster and splint rooms as many as two hundred patients daily could be dealt with.

From the beginning, patients were rechecked as they were sent to the trains leaving the hospital. Occasional defects in splinting were in this way caught up and remedied as the patients departed. After the first fortnight practically every patient in each convoy had been carefully and adequately splinted, whether for the needs of treatment or for protection during the journey to United States.

In receiving patients, index cards of all patients received during the 24 hours preceding, were written on buff paper slips every night between midnight and morning. Each slip carried the patients name, unit, diagnosis, etc., as indicated in the following:

"Yes" or "No" Or "No"
NAME Doe, John Rank Pvt.
DATE Oct 15/18 NO. 1,000,000 UNIT Co. I 10 Inf.
DIAGNOSIS: G. S. W. left leg with F. C. C. femur and injury to sciatic nerve.
DIAGNOSIS NO. 27-31
CONDITION 1 2 3 (4) (NOTES)
No splint
A B C (D) Treatment:
Thomas Splint
(Initials of Med. Officer)
HOSP. 1 2 3 4 BH 4
SAMPLE CARD

The following explains the use of the card:

Condition as to readiness for transfer is indicated by writing on the margin of the card, as follows:

"Yes"—If no treatment is required and case is ready for immediate transfer.

"No"—If splinting is required and case will be ready for immediate transfer after the required splinting is completed.

"No"—If prolonged treatment is required to prepare case for evacuation.

Diagnosis numbers are entered in accordance with charts of diagnosis numbers already prepared. (An arbitrary code).

Condition:

1. No. splint required and wearing none.
2. Wearing satisfactory splint.
3. Wearing unsatisfactory splint.
4. Wearing no splint, but needing one.

A. B. C. D. Classification as to nature of disability.

Hospital—Number of hospital through which patients have successfully passed should be entered here, space (3) being for hospital from which cases have been transferred to this center.

These slips must be furnished and returned to the Orthopaedic Office before noon of the same day. There must be no exceptions to this rule."

These slips were classified by wards the morning following the patient's arrival, and distributed, either to ward surgeons or to consulting surgeons, who saw the patients thus assigned to them and reported as to condition on arrival, revision of diagnosis, and the patient's requirements as to operation, splinting, etc. To a large extent these matters were all dealt with the same day, so that a considerable proportion of all surgical patients coming to Savenay were ready for evacuation to the United States within 48 to 72 hours of the time of their arrival.

During November it was directed from Headquarters that all patients with bone and joint injuries, including all fractures and all other orthopaedic conditions must be approved for evacuation by the consultant in orthopaedic surgery before departure for the United States. This was in line with what had already been done by the department at Savenay, but had the effect of more definitely fixing responsibility for this class of cases and of associating therewith the authority necessary for the control of the factors involved. The class of cases which required the most careful consideration and in which the more serious problems of treatment and travel were involved were naturally the compound fractures, especially those involving joints. It was a matter of interest. however, that with the methods of splinting that were gradually worked out, large numbers of these patients were brought to the United States in safety and comfort. This applied even to compound fractures of the humerus and femur with rather extensive open wounds.

By the above plan with the excellent cooperation of the Army and Navy transports and their medical officers many thousands of patients who had had little more than emergency treatment were transferred with their remaining surgical problems to the U. S. At the same time, special wards were organized at Savenay for the care of compound fractures of the femur, of the knee joint, of the leg below the knee, of the upper extremity, etc. A special department was also set aside for the care of the amputated where excellent work was done. Some interesting facts in regard to these classes of patients are brought out in another paper entitled "The Incidence and Treatment of Certain Casualties in France."

Hospital for Tuberculous.

L. T. Sidwell, Supt., Kearney.

Many doctors in this state are either ignorant or forgetful of the Hospital for Tuberculous at Kearney, Nebraska. This hospital is a state institution and patients who are unable to pay are cared for free of charge. It is a startling fact that from a certain 39 counties in the state, only 19 patients have been admitted since the Hospital was established seven years ago. (The other 43 counties have sent 650 patients, 109 of these from Lancaster county and 259 from Douglas). This is not because tuberculosis is not prevalent in this state. Death reports from the State Board of Health will disprove any such theory.

Tuberculosis is curable, if taken in the incipient stage. Even moderately advanced cases can be improved to such an extent that they are able to go back into the business world and be useful. Improvement in tuberculosis is slow. Patients sent to a Sanatorium should remain at least six months. It is a common occurrence, however, for patients who go to Kearney to say that their physician has told them that they should be well in a month or two. If it is necessary to tell them this to get them to go, perhaps it is a permissable falsehood but it should not be done any oftener than necessary. It is still worse to neglect sending your patients to a sanatorium. There are in the neighborhood of a thousand physicians in this state who have never filled out an application blank for Kearney. Some of your patients may not care to go and accept everything for nothing. Those who cannot pay should not hesitate, however, about going for they are cared for as well as if they did pay. No distinction is made. (For your information it may be said that it costs the state over $60.00 per month per patient to maintain this hospital.)

The Hospital for Tuberculous should have every bed filled with incipient cases of tuberculosis, and in addition have a long waiting list. Instead there are a few vacant beds most of the time. Far advanced cases of tuberculosis as a rule cannot be benefited and for that reason the state makes it a point to give the improvable cases the first chance. Insist on your patient caring for himself before he gets to be a far advanced case.

If your patient is actually unable to be spared from home longer than a month or two, he should be urged to take treatment for that length of time, anyway. In that time he can learn how to care for himself, and how to keep from infecting others.

If you have a patient who needs Sanatorium care, let me urge you to write at once to the Superintendent of the Hospital for Tuberculous at Kearney, Nebraska, for an application blank. Is your county one of the following: Antelope, Banner, Blaine, Boyd, Brown, Deuel, Dundy, Grant, Hooker, Keith, Loup, Morrill, Nance, Perkins, Rock, Sarpy, Sioux, Thomas, Wayne or York? These counties have never had a patient in the hospital at Kearney.

A Few Suggestions on Surgery of the Prostate.

E. A. Watson, M. D., Grand, Island.

It is not my desire to advance anything new along the lines of surgery of the prostate, but simply give some of my ideas and results of the ideas. Possibly, at the same time. tear down; or maybe better, criticise some of the many things in vogue. The many things now being used are not so numerous, but as I see some of them, the results of some, and the character of the work as performed, it never ceases to be a wonder that these victims ever recover. The entire hope and desire of the operator seems to lie in speed and technical deftness, with which he can ennucleate the gland, regardless of trauma, and the spending of too short a time in treatment of the bladder wall. Following this, and by far the most important of the entire management of the case, is the surgical after care and personal attention of the surgeon in charge. It is unnecessary that these patients lie in a wet bed, sweltering in urine, eminating an odor of decomposing urine and blood, which is nauseating in the extreme.

The most popular method for removal of non-adherent and non-malignant simple hypertrophies, without abscess or without history of a previous abscess, lies through the super-pubic route. This theory was first perfected by Dr. Freyer of London. Since that time it has only been slightly improved upon by other operators. Dr. Young, in a late writing, advanced what appears to me, a very excellent method of operating malignant and adherent glands through the perineal route, which from his description. is full of merit. However. the technic which I wish to discuss, has been my own management of nine different cases done super-pubically. The procedure followed the same as described by Dr. Freyer, paying special attention to the points which he emphasized.

The bladder is first filled to a point of distension with warm saline or boracic acid, the peritoneum shoved well up the bladder, caught with Allis' forceps at the highest point on the anterior fundus. A small incision is made through the bladder wall. A curved catheter is used through the penis, the catheter is forced up against the mucous-membrane and held firmly in place. A small incision is made through the mucous-membrane, only sufficient to perfect an entrance through the bladder and tight enough around the catheter to prevent leakage. The tube returning from the catheter is then opened and the bladder permitted to drain. This prevents spilling of the bladder contents in the open wound. Through the small opening, primarily made, in the mucous-membrane, Allis' forceps are placed on either side of the bladder incision and the opening enlarged into the bladder downward to the size desired. The ennucleation of the gland is then made, a careful inspection of the bladder wall following the ennucleation, the old cavity is packed and the hemorrhage is brought under control. Then with a long rubber catheter, size 18-20 French scale, passed through the penis and the tip is drawn out through the anterior abdomen; two or three good sized openings are then made on the side of the catheter, so that when the catheter is drawn back into the bladder, only the tip with its opening remains outside the abdomen. The opening remaining in the side will lie deeper within the bladder cavity.

The anterior bladder wall is then closed from below upward, first with through and through muscular sutures, this line of suturing being again covered by continuous Lembert's sutures. The catheter should come out at the highest point of incision in the bladder and this should be on the highest point of the bladder wall, and the bladder closed tightly around drain tube or catheter. The muscles of the abdomen are then closed with two sutures, picking up the bladder just below the catheter drainage and fastening the bladder wall to the anterior abdomen. The rest of the abdomen is then closed in the usual manner and a safety pin can be passed through the abdominal end of the catheter to prevent it from retracting. My opinion in fastening the bladder to the abdominal wall, is to prevent a collapse of the bladder, thereby obliterating the cavity. The bladder, when empty, is an obliterated cavity with its walls in apposition with various corners and folds for accumulations of blood clots and other debris. The fastening of the bladder to the anterior abdomen, not only prevents this, but leaves an open cavity, and with the through and through catheter, air is permitted to enter the bladder, this very materially assists the drainage, as air is essential to drainage through a tube of small caliber. After 48 hours, the bladder is gently washed with an antiseptic solution. I have tried boracic acid, silver nitrate and sterile water, and believe my results are as good with one as with another. For the washing I use a one-half or one ounce glass syringe with wrapped plunger, forcing the solution in through the lower end of the catheter, being careful to use little pressure in the first few washings; endeavoring to break up blood clots and fibrin, which have accumulated in and around the pocket where the prostate lay. From now on, the bladder should be irrigated twice daily by the surgeon in charge, being sure that the openings in the catheter are kept constantly open. It is necessary to have in these cases, a well trained nurse in constant attendance and instruct her to inject through the catheter every two to four hours. By having the catheter always open, the urine is permitted to drain through the lower portion into a bottle or receptacle beside the bed. When the wash water comes away clean, with no shreds of fibrin or old clots, the safety pin may be removed on the abdomen and the catheter withdrawn into the bladder, permitting the abdomen to close, as it will promptly do, if the drainage is kept open from below. Further washings may be carried on at liberty through the catheter and from this stage on, the catheter should be withdrawn, and a new one of suitable size inserted, with an extra opening cut near the tip, opposite to the regular openings in the commercial catheters. This extra opening permits a freer washing and better drainage. The catheter should be withdrawn entirely, thoroughly cleansed and reinserted each day, all parts being kept as clean as possible and every aseptic precaution used. In my series of cases, the patients have been able to void by the eleventh day with no leakage through the abdominal wall, with the exception of one, which did not void voluntarily for seventeen days. This was due a great deal to an infection in the abdominal wall due to a previous existing infection in the bladder.

The idea of the through and through catheter is not original with me, and to my knowledge, Dr. Judd of Rochester, was the first to employ this method, but I believe it has been abandoned to a certain extent since that time.

The main features to which I attribute my little success, has been due to the following points. Proper ennucleation of the prostate, the opening of the bladder being at the highest point of the bladder wall; the fastening of the bladder wall to the anterior abdomen and the closing of the bladder tightly around the abdominal drainage, and the rigid adherence to asepsis. And last, but not least, the cleanliness and the comfort of the patient, which is procured in the use of this method. This is a great factor in the early recovery of these subjects, they being patients who are always on the decline, of low resisting power, and slow to react in uncomfortable and unclean surroundings.

In only one case was preliminary drainage done. This was a diabetic with an active cystitis. The bladder was drained two weeks previous to the removal of the gland. One case was operated before a catheter had been used at all. The case left the hospital the twelfth day after operation. Cases, such as this however, are rare, as these sufferers do not realize their own condition, until they suffer an acute retention, and immediate relief is essential. The case is indeed rare, who is not suffering an infection of some degree, if it has been necessary to employ the catheter over a very short period only. Another point I wish to put forth; these cases should never be subjected to an operation at the time they are suffering with a full bladder. If it is impossible to pass a catheter, it is much better to open the bladder superpubically, under novocaine, and establish a drainage, waiting for several days before attempting a removal of the gland. A rapid reduction of the bladder tension, causes a rapid fall in the blood pressure, this reaction on the kidney may prove disastrous, should additional shock and trauma be added.

Will say this in closing, these cases are bad enough at the best and any surgeon who has numbers of these to contend with, in his harassed career, and gives them his personal attention faithfully, must be deserving of a crown in heaven.

Bacterial Findings in 107 Cases of Abscessed Teeth in Children.*

Arthur L. Smith, A. B., M. D., and
Ralph W. Ludwick, D. D. S., Lincoln.

So far as we have been able to ascertain by a perusal of all the available literature, no one has reported upon the organisms present in abscesses at the root of teeth in children. After a work covering two years we are now ready to make a report upon our research along this line. This report covers 107 cases of apical abscesses, four secondary fistulas, eight gingival abscesses and one abscess in the roof of the mouth, in children ranging from four to eleven years of age.

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*Read before the Joint Meeting of the Lancaster County Medical Society and the Lincoln Dental Society, February 15, 1919, Lincoln, Neb.

The affected tooth area was isolated from the rest of the mouth, dried with alcohol and ether, and painted with one-half strength tincture of iodine. The root of the tooth whether whole or partly absorbed, was touched with nothing but the sterile instruments used in inoculating the culture media. Cultures were made both arobically and anerobically and all colonies were later planted on blood agar plates. No innoculated tube was discarded before the sixth day of incubation at 37°C and was examined each day and then placed in the light to assist in pigment development. Stained smears were made from the apical region of the tooth, also wet preparations were examined immediately so as to obtain data on the motility of the organisms.

The media used in these experiments were: Loeffler's blood serum, plain agar, litmus lactose and dextrose agar, ascites agar, blood agar, beef boullion and beef boullion with hen hemoglobin.

All streptococci were injected intravenously into rabbits to ascertain the pathogenicity and localizing power of these. The dose consisted of the washed organisms in 5 c.c. of boullion of 24 hours incubation at 37°C.

A record of the physical condition of 86 of these children was kept but this is too voluminous to enter into this paper.

The scope of this paper does not extend to a consideration of the relationship existing between apical abscesses and systemic diseases. The importance of oral foci to metastatic infections of the heart, kidneys, blood vessels, joints and other tissues, though overdrawn, is generally recognized. Of the organisms found in apical abscesses, there are none having the varied possibilities for disease production as the streptococcus group. Clinical observations on adults, as well as animal innoculations, have clearly shown that in the remote pathologic effects of those abscesses, the streptococcus overshadows in importance all other organisms which may be present.

A discussion of causative factors necessarily involves a consideration of its pathogenesis. We generally recognize that bacterial invasion is characteristic of the pus stage and is not necessarily present in all inflammatory conditions without pus at the root of a tooth, so our research series is based only on investigation of cases of the purulent type. These organisms are carried to this region by the blood stream, through the lymph channels, through the gingival crevice, through open pulp chamber and from contiguous tissue. The bacterial invasion is no doubt aided by the formation of calculi on the roots of the teeth or at the gingival margin, by trauma, irritation and constitutional influences.

The following is a table of the organisms found in our 107 completed cases of root infections.

		Times organism was found
1.	Streptococcus hemolyticus	26
2.	Streptococcus pyogenes	19
3.	Streptococcus viridans	2
4.	Staphylococcus pyogenes citreus	9
5.	Staphylococcus pyogenes aureus	36
6.	Staphylococcus pyogenes albus	7
7.	Bacillus pyocyaneous	1
8.	Diplococcus pneumoniae	18
9.	Micrococcus catarrhalis	4
10.	Bacillus fusiformis, Spirochete vincenti, (Vincent's angina)	1
11.	Diphtheroid bacillus	3
12.	Sterile	8

The predominating organism in this series is the staphylococcus pyogenes aureus. In the four fistulas and eight gingival abscesses, the staphylococcus pyogenes aureus was the only organism isolated.

The history of one case seems especially interesting. The parents called one of us to see a child two and a half years of age, saying that it could hardly talk or swallow and had a high fever. A dentist had seen the case four days before and had said the child had an "abscessed tooth" but it would be all right and that he would extract the tooth when the proper time came. The examination showed a red edematous area about one of the upper molars, a large fluctuating tumor in the roof of the mouth and large pustular tonsils. An incision was made in the tumor on the lingual side of the molar from which pus flowed freely. When the tumor in the roof of the mouth was incised, the pus fairly shot out of it, at least fifteen cubic centimeters. A gauze pack was inserted and drainage took place several days. The tonsils gradually decreased in size and have not been infected since (five and one-half months).

The staphylococcus pyogenes aureus was isolated from each lesion. This seems to me to be a clear cut case of a secondary infection in the tonsil and during the last two years we have seen five other cases of as convincingly secondary tonsillar infections from teeth abscesses. Henke has injected carmin into the mucous membrane covering the alveolus of the upper jaw and has recovered it from the tonsils thus establishing a direct lymph flow from the tooth area to the tonsil.

So while dentists as a rule, do not like to spend time necessary to care for the teeth of small children, it should be insisted that these infections be eradicated before tonsillar enucleation is resorted to; then if the tonsil infection does not disappear, tonsillectomy can be done.

In the one case in which the organisms of Vincent's Angina were isolated, the child's mucous membrane covering the alveolus was destroyed to such an extent that the roots of several teeth were exposed.

All the streptococci were injected intravenously into young rabbits (in the dose mentioned above) with the hope of finding that these organisms might have a selective action upon the teeth area, but in no case was an abscessed tooth formed.

We are now attempting to find out the effect of these organisms upon the vital organs of the body and hope to have this completed in time to report at our joint meeting next year.

The lessons, which we have learned from this work are:

On account of the time consuming difficulty in handling children, their teeth are too often neglected by the parent, dentist and physician.

Too much attention is paid to the tonsil alone and little to the primary focus in the teeth by the physician.

While this series is small it opens the way for a great deal of experimental work which will undoubtedly be of clinical value.

Finally, children's teeth, infected as these are, must be extracted, if the focus cannot otherwise be sterilized, even though many dentists are of the opinion that premature extraction of deciduous teeth may result in the retardation of the development of the dental arch and be the indirect cause of malocclusion of the permanent teeth.

While this may be one of the causes of malocclusion, it is a lesser evil than the constant absorption of infected material from this abscessed area, which may be the etiological factor in embolic diseases of other organs of the body.

Finally, we wish to emphasize the value of prophylactic dentistry and to stress the importance to all concerned of preventing such conditions as have made this paper seem necessary.

When a roentgen examination shows one or many periapical or other types of tooth infection in a patient suffering from a systemic disturbance, which could be caused from a focal infection, I can think of but one absolutely satisfactory method to eradicate these infections and that is, extraction with thorough curetting of the processes, or in other words, treat them the same as any good surgeon would treat an area of osteomyelitis in any other part of the body—by thoroughly curetting all of the necrotic tissue and cutting well into the normal bone process to insure perfect healing and regeneration of this tissue.

Influenza Vaccine Report.

From Offices of Welch, Rowe & Lehnhoff.

In October, 1918, when the influenza epidemic began to appear in Lincoln, we were besieged with requests for preventive treatment. Failing in our early blood, nose, throat and sputum cultures to isolate an organism which we could believe might be specific, we telegraphed Dr. E. C. Rosenow for his cultures or vaccine. The latter he very kindly furnished us in the quantities needed. Following is a brief summary of the results obtained in those inoculations. Every patient was told that we could not promise definite immunization, and was requested to keep us posted for two or three months following the last injection concerning what happened. No charge was made by Dr. Rosenow for the vaccine, and in turn none by ourselves.

Total number	105
2 doses only	16
1 dose only	11

Dosage:	Adults	Children (average)
First dose	0.5 c. c.	0.2 c. c.
Second dose	1.0	0.4
Third dose	1.5	0.6

Intervals between doses, one week.

AGE.

Maximum	65	Oldest showing sequela	45
Minimum	6	Youngest showing sequela	13
Average	32		

Illness and Complications.

1. Prior (within 4 weeks)—14 had colds; 6 had influenza.
2. At time of injections—1 had hay fever; 2 had tuberculosis (inactive).
3. Following injections—7 had colds; 13 had mild influenza; 7 had severe influenza.

(None of these were included in the number having influenza prior to injections).

Number of days following injections when complications occurred:

Average following first	2 days
Average following second	26 days
Average following third	27 days

Four patients had previously taken Sherman's vaccine. Each of these four had influenza later. One who took three Rosenow injections had a mild attack; two had two Rosenow injections and had mild attacks; one, who had one injection of Rosenow's, had a serious attack with relapse.

The most interesting features are that the percentage of those having influenza is small, of those having serious attacks, very small; while absolutely none had pneumonia.

The series is too small for conclusions, but we submit our findings as interesting and for what they are worth.

Dental Infections From the Viewpoint of the Roentgenologist.*

Roscoe L. Smith, M. D., Lincoln.

As a roentgenologist, it has been of great interest to review my experience in connection with dental infection during a period of over five years and note the change that has taken place among physicians, dentists and laymen.

At first the roentgenologists were blamed or largely discredited for placing so much importance on the findings of the so-called periapical abscesses and other infective processes about the teeth.

This indifference, if I may term it such, has been replaced by a very different attitude on the part of doctors of medicine and dentistry and incidently by the laymen themselves, until at the present time it is an accepted fact, proven many times in everyone's experience that these so-called focal infections do cause and are responsible for a great many serious disturbances experienced by patients afflicted with this type of disease.

Although it is unjust and unfair to blame all of the systemic disturbances on tooth infection; they certainly are responsible for a large, generous portion of the disturbance. The tonsils and the accessory sinuses are also important etiological factors and to my mind share the responsibility equally with dental infection with the exception that they are more apt to cause acute symptoms and thus manifest themselves at a much earlier stage and therefore receive radical treatment.

In medicine, and I presume in dentistry also, the pendulum of popular opinion swings slowly from unbelief to the full acceptance of the most radical opinion and later drops back to a more conservative stride.

To my mind the past few years have taken us through just such changes, yet there is still much difference in opinion and I feel that we are still far from a standard.

The difficulty in carrying out or standardizing methods and opinions on this subject. I believe, is due principally to the different interpretation of these pathological changes, and the interpretation of these changes must be based on anatomy and pathology.

One individual may give an opinion on a roentgenogram, as normal unless he finds a large periapical shadow. The processes may be largely destroyed, and yet, are not taken into consideration. If there is but a small area he may think the area too small and insignificant to cause disturbance in physiological functions. Another individual may be an extremist of the opposite type and say that all devitalized teeth, whether properly filled or not, are infected teeth and are possible sources of systematic disturbances on the theory that the tubli in the dentine are devitalized and infected.

To state my viewpoint as a roentgenologist and from a roentgen standpoint, I believe that all devitalized teeth that show definite areas of osteomylitis at the apex; that show definite granuloma or infection and death of the peridental membrane from below upward; teeth with normal or devitalized pulp that show extreme destruction of the peridental membrane with marked receding of the gingival border and marked destruction of the boney processes, in patients suffering from systemic disturbances, are a menace, and the probable etiological factor in their particular case.

Actinomycosis.

Michael G. Wohl, M. D., Omaha.

Diseases of man caused by fungi (hyphomycetes) are by no means as rare as it is generally believed. Their seeming infrequency is due either to failure to report these cases or to a mistaken diagnosis. Clinically they resemble the infectious granulomata; particularly is this true of sporotrichosis and blastomycosis which are often diagnosed as tuberculosis or cutaneous syphilis.

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*Read before the joint meeting of the Lancaster County Medical Society and the Lincoln Dental Society, February 15, 1919, Lincoln, Neb.

There is no doubt that if pus would be examined from every case under treatment more cases of fungous nature would be recognized, especially actinomycosis, which bears a clinical picture of an infected carcinoma for which condition it is frequently mistaken.

Cases of sporotricosis in this part of the country were reported by Gifford (1), McClean (2), of blastomycosis by Mullins (3), Wohl (4).

Cases of actinomycosis from the Missouri Valley, however, are not found to be reported in the literature for past decade. The publication of a case of actinomycosis would therefore be justified.

Case 1. Wm. Sch., age 68 years, farmer. Referred by Dr. D. T. Quigley. Family history negative. Personal history: has always enjoyed good health until a year and half ago when he noticed an ulcer on the inside of lower lip near the right angle of mouth. The ulcer kept on getting larger and became tender. Condition was diagnosed as carcinoma and treated locally by some caustic application. The lesion never healed, but got worse. The tumor mass grew rapidly in size until it involved nearly the whole lip and chin; the sub-maxillary gland became involved and was lanced by the local doctor who supposed it to be an abscess. Two months after, Dr. Quigley inserted radium in the sub-maxillary gland and also applied radium to chin and lip; three months after, the lymph glands became enlarged and swollen and reached the size of an english walnut; they were painful; three months later the left side of the neck became involved. Drainage tubes were placed in both sides; the glands contained pus that had a thick creamy consistency; the pus was cultured but no growth obtained.

When patient was first seen by us with Dr. Quigley, the right side of his neck about one inch below the inferior maxilla and one-half inch away from medium line was the seat of a tumor the size of a child's fist; the tumor appeared to be made up of several small nodules fused together. The mass was tender and rather firm to the touch. The skin covering it was non-adherent to it. The left side of the neck was the seat of a similar tumor, in the center of which there was a fistula from which gray white material exuded. Because of the non-adherence of the tumor to the underlying skin and the chronicity of the condition and lack of cacheia, a diagnosis of fungus granulema was made. Some of the pus was obtained by means of a hypodermic syringe under sterile conditions and anerobic cultures of glucose agar, glucose bouillon and aerobic Cl. agar cultures were made. The tumor was curetted and drainage instituted by Dr. Quigley. Smears from the pus gave a rather indistinct picture; we feel that smears alone are hardly sufficient for the diagnosis of actinomycosis; the clear "radiating clubs" described in the text-books are not often found in the pus.

Sections of the curetings showed muscle tissue undergoing necrotic changes with round cell infiltration. Scattered throughout the necrotic tissue there were typical actinomyces (fig. 1.)

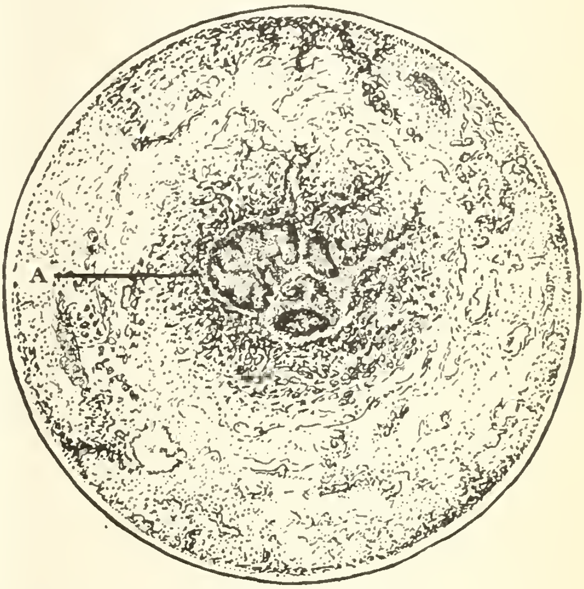

FIG. 1.
Section illustrating Ray Fungus, (A). Low magnification; drawing of actual Microscopic field.

The glucose agar stabs revealed at deeper parts columns that were irregular and opaque and extending along the stab as a line of small nodules; in couillon the growth appeared as solid whitish particles at bottom of tube.

Stained smears from the agar and couillon cultures showed long and short rods with branching filaments (Fig. 2). No club formation was noticed.

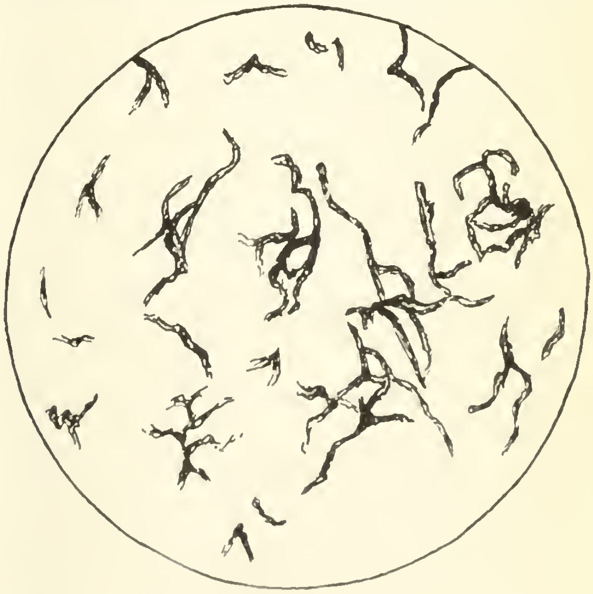

FIG. 2.
Smear preparation from broth culture.

This is in accordance with the work of Wright, (5), that cultures of actinomycosis do not form clubs. The bloor agar showed pneumococci.

The patient was put on heavy doses of potassium iodide and given intravenous injections of sodium cacodylate. In addition to the above we used an autogenous vaccine. Pneumococci were also incorporated in the vaccine. The last we have heard from the patient is that he made distinct improvement.

The specific vaccine therapy for actinomycosis I believe should be given further trials. In 1916 we suggested the use of compliment fixation test for the diagnosis of fungus diseases particularly blastomycosis (6) basing it upon the observations of Kolmer and Strickland (7), that fungi produce antibodies.

In accordance with the above observations, we believe that vaccine therapy in these diseases is a step in the right direction.

The Ray fungus was first described by Bollinger (8), in 1877, as the cause of lumpy jaw in cattle. Israel in 1878 recognized the ray fungus as the cause of disease in man. Since then cases have been studied in nearly every country.

A point of considerable importance is that the "sulphur" like granules so pathonomonic of the disease are not always present in the pus, as this was the case with our patient; however the tendency of the condition to advance through all tissues with formation of fistulous tracts, should attract one's attention as to the existence of actinomycosis and proper bacteriological studies instituted.

The prognosis of the disease depends upon location of lesion: pulmonary cases give the highest mortality rate; the cervical facial the lowest (10).

A point that cannot be too much emphasized is the early recognition of the disease and the appropriate treatment.

References.

1. McClean, Journal American Medical Association, Nov. 24, 1917.
2. Gifford, Opthalmic Record, 1910.
3. Mullins, Journal American Medical Association, July 4, 1908.
4. Wohl, Western Medical Review, April, 1916.
5. Wright, Journal Medical Research, 1904-1905, p 307.
6. Loc. cit.
7. Kolmer & Strickland, Journal American Medical Association, 64, 1915.
8. Bollinger, Centrabl f. d. Med. Wiss. 1877, XV.
9. Israel, Centralbl f. d. Med. Wiss. 1883, 27.
10. Ewing, Johns Hopkins Hospital Bull. 1902.

Annual Meeting of the Omaha Roentgen Ray Society.

Held at Omaha, Nebraska, at the Hotel Fontenelle, on Saturday, April 5, 1919.

The morning session was called to order at 10:00 o'clock a. m. by the president, Dr. A. P. Overgaard.

Dr. Overgaard announced that the first paper on the program was by Dr. A. F. Tyler, and called Dr. Tyler to the floor. Dr. Tyler responded with the following paper:

Deep Roentgen Therapy.

A. F. Tyler, B. Sc. M. D., Omaha.

It might be well at this time to explain just what is meant by deep roentgen therapy. This title originated from the fact that this method of therapy was especially suitable for the treatment of diseases situated deep beneath the surface. This meaning, however, is not exactly correct because the same kind of therapy must necessarily be used for certain superficial growths. The success of this method of therapy depends entirely upon the quality of the rays which are shot into the diseased part and the corresponding difference in the histological action from those rays which are used in certain other conditions.

The histological action produced by the rays used in deep roentgen therapy is as follows: First, the effect upon the blood vessels supplying the growth. After the treatment has been administered the endothelial lining of the small capillaries becomes markedly swollen. After sufficient dosage has been administered this swelling increases until the capillaries have become obliterated producing an endarteritis obliterans. In this manner the nourishment to the growth is shut off. The second action is an actual destruction of the cells forming the growth. This is manifested following treatment by a cloudy swelling of the nucleus, followed in a short time by actual breaking up and destruction of the nucleus of the cell itself. This debris is carried away by the lymphatic system, turned back into the circulation and later carried off by the kidneys through the urine. After cell destruction has taken place, a period of repair takes place resulting in the parenchymal cells being replaced by connective tissue.

Bearing this in mind, one can readily perceive that in the treatment for hyperthyroidism, for illustration, when we wish to stop the over activity of the glands but wish a cosmetic effect as well to get rid of the tumor, that we will be disappointed because sufficient connective tissue will be present in the gland to form a noticeable tumor. In advising a patient to have roentgen therapy for hyperthyroidism one should carefully explain to them that they will still have a noticeable tumor but their symptoms will be stopped.

There are a number of conditions located on the surface of the body which can only be successfully treated by the use of the so-called deep roentgen therapy, or as I prefer to call it, the use of the gamma rays. When properly administered the rays in deep therapy correspond with the gamma rays of radium and have a similar histological action upon the tissue.

Amongst the superficial conditions which must be treated by this means in order to get success we may mention keloid, ring worm of the scalp and beard, angioma and tubercular glands. One will fail utterly to win success in treatment of these conditions unless the same quality of rays is administered as we use in the following conditions which are located beneath the surface, namely: exophthalmic goitre, uterine hemorrhage, at the menopause without demonstrable pathology, uterine fibroid, Hodgkin's disease, enlarged thymus, splenomyelogenous leukemia, splenomegaly; of the malignant growths, sarcoma and carcinoma. No matter whether they are situated on the surface or deep within the body, they should be treated by this means. Under carcinoma we have leukoplakia and epithelioma.

It is my feeling that in order for one to gain success in roentgen therapy it is as important for the technic to be perfect as it is for the surgeon's technic to be perfect. Bearing in mind the histological action produced by the different qualities of the X-ray one will be able to adopt a standard technic which will result in the maximum benefit to the patient.

The following rule has served me well for a number of years. That is, that we should treat the growth until it appears to be well and then we should administer as much more treatment as we have already given in order to be sure that we have not missed any cell nests. This rule of course is adhered to rigidly in the treatment of malignant disease but it can be varied somewhat according to the individual case when treating benign diseases.

The results which can be expected from properly given deep therapy are well worth while. In keloid, ringworm, uterine hemorrhage without demonstrable pathology and in selected cases of uterine fibroid and in selected cases of hyperthyroidism and enlarged thymus, it promises one hundred per cent good results. In cases of Hodgkin's disease deep roentgen therapy is the best agent known to medical science but at the same time that it is being administered one should combine the medical treatment consisting of the administration of arsenic as sodium cacodylate or one of the salvarsan preparations. Arthur F. Holding of New York reports one hundred cases of Hodgkin's disease treated by this method. Ninety-seven per cent of them remained well for a period of five years. It is my opinion, as well as Holdings that eventually these cases reach the stage where they prove fatal and that it is necessary to keep them under constant observation for an indefinite period of time covering several years. In the treatment of splenomyelogenous leukemia this is really the agent of choice. The treatment must be rigidly given covering the entire surface of the spleen and the shaft of the long bones. As the treatment is being given, frequent blood counts should be made in order to check up results. There are such large amounts of proteid thrown into the circulation in treating the spleen that the patient becomes toxic. If we push the treatment too far it poisons them with their own excretions. It is my custom to treat them, watching the blood count. When the white cell count drops suddenly and the patient looks toxic and sick, I immediately stop treatment, giving the patient a period of rest lasting usually three weeks. During the treatment and during the period of rest I give them 20 gr. of sodium bicarbonate four times a day in order to keep them well alkalinized. As soon as they recover from this toxemia, treatment is begun again and carried as far as it is safe. These treatments are repeated as rapidly as possible until the patient's blood count comes down to normal and the tumor reaches the state where it is not palpable. Then the patient is asked to return to me once every two months for observation, or sooner if he should notice any sign of the tumor or return of the disease. I append herewith case report illustrating the blood count during treatment for this condition:

Case No. 10161. Mrs. G. T. Three months previously she noticed a tumor in the left side of the abdomen. She had X-ray in Chicago eighteen months ago, in Sioux City six months ago and two months ago the tumor reappeared.

Examination showed the spleen filling more than half of the abdomen.

Blood count January 11, 1919.—Leucocytes, 117,000; hemoglobin 75%; red blood cells, 2,424,000; polymorphonuclears, 6%; small lymphocytes, 16%; large lymphocytes, 19%; myelocytes, 15%; eosinophilia, 14%; large mononuclears, 5%; basophils, 25%. Red blood cells showed poikilocytosis macrocytes and microcytes.

February 14, 1919.—Hemoglobin 77%; red blood cells 3,000,000; color index one plus; leucocytes 7,200; polymorphonuclears, 29%; small lymphocytes, 8%; large lymphocytes, 19%; eos. myelocytes, 12%; neut. myelocytes, 17%; eosinophils, 4%; basophils, 19%.

March 26, 1919.—Leucocytes, 5,200; red cells, 3,200,000; polymorphonuclears, 53%; small lymphocytes, 27%; large lymphocytes, 16%; eosinophils, 2%; trans, 4%; myelocytes, 2%; basophils, 1%.

The treatment of splenomegaly is carried out in the same manner as the treatment of splenomyelogenous leukemia. The results are not so brilliant, however.

In the treatment of sarcoma the roentgen ray promises excellent results in all types except in the periosteal and myelogenous. I present the following case record of round cell sarcoma.

Mr. D. C. C., age 56 years. On January 1, 1918, his throat began to get sore and he consulted his physician who found the right tonsil markedly enlarged. This was treated by the usual method for a short time but it steadily grew larger. A few months later he was referred to Dr. E. C. Hill of Denver who removed a section for microscopic examination and found this to be a round cell sarcoma. Removal was not thought advisable. Later, the patient went to Dr. Bevan of Chicago, who recommended ligation of the carotid artery and application of radium. Later he consulted Dr. Hall of Kansas City, who approved the same treatment as Dr. Bevan. When he came to me for examination the whole throat was closed so that it was impossible for him to speak or swallow liquids. The right submaxillary and sublingual glands were involved in the growth so that that part of the throat was markedly swollen. The following treatment was then administered. He had three series of treatment, one in July, 1918, one in August, 1918, one in October, 1918. He has had no treatment since and he is still well.

In the treatment of carcinoma I feel that all operable cases should be removed surgically and followed with post-operative roentgen therapy. This, in my opinion, will lessen the percentage of recurrence. In inoperable carcinoma, deep roentgen therapy is a great benefit resulting in cessation of pain, prolongation of life and in some cases almost a miraculous improvement in the local condition as well as the constitutional action. I give the following illustrations:

Mr. G. P. B., age 56 years. Three years ago he noticed some pain in the rectum. It disappeared then returned. Eight months ago he noticed blood in the stool. Recently it has been more profuse with pus and lots of pain. He has lost ten pounds.

Examination.

Carcinoma involving the anterior rectal wall fixed to the bladder and prostate—inoperable.

Diagnosis.

Cancer of the rectum.

He has had four series of treatment. After the first series all hemorrhage ceased and has not returned. Although general anesthesia was necessary for the first examination all pain has disappeared and now only a few indurated areas can be felt.

Mrs. F. H., 44 years old. She weighs 90 lbs. Four years ago she noticed a lump in the right breast. July, 1915, she consulted a doctor who found trouble in both breasts. In 1915, she visited the Mayo Clinic where they found cancer of the uterus, liver and both breasts. She was referred to roentgen therapy, coming December 13, 1915.

Results.

She has had eighty-seven treatments, comprising fourteen series, covering the entire torso from the chin to the pubes—front, back and both sides. When she came she was bedfast and unable to eat or sleep because of the pain. Her pain disappeared, the uterine hemorrhage ceased, she gained weight, was able to sleep and eat anything she liked. She is still doing her own housework three and one-half years since treatment began. She has had no treatment during the past year and one-third. Both breasts are soft and the liver is barely palpable, while the uterus is slightly boggy.

While we are waiting for the lights to be turned off I have a young man here I should like to have pass around for your inspection.

This young man came to me two years ago with an extensive sarcoma of the right maxillary sinus with projection of the process down on the right side and a swelling out on the cheek. If he had been treated surgically for it he would have had to have had a resection of the right superior jaw bone. This would have left him badly deformed. He has had X-ray treatment of the maxillary sinus. He has a little scar there on the cheek you will see from the treatment. It is necessary in treating conditions of this kind to disregard cosmetic effects in order to save the patient's life and I have a number of cases of sarcoma of the maxillary sinuses which have been entirely relieved by deep therapy. This boy is a growing boy and of course his teeth are deformed. The teeth are now coming down in pretty good shape with the aid of braces and other means of treatment. They are growing down into normal position so he is going to have a pretty useful set of teeth.

(Dr. R. L. Smith of Lincoln operated the lantern for the display of slides for Dr. Tyler).

Dr. Overgaard.—The next paper on our program is by Dr. R. L. Smith of Lincoln, and we will hold the discussion of Dr. Tyler's paper until after Dr. Smith has finished.

Dr. Roscoe L. Smith illustrated his talk with the cinema demonstrating the massive dose method as he proceeded. The paper is as follows:

Cinematographic Method of Technique and Case Reports.

Roscoe L. Smith, M. D., Lincoln.

I want to show you the technique and the result of treatment on some malignant tumors and I have taken the method of moving pictures, which I believe to be the nearest way we can demonstrate to you just how this treatment is administered and the results obtained.

One of the most important, if not the most important, point to consider is the position of the roentgen tube in relation to the tumor or area to be treated. Since we have a limited penetration and since this penetration decreases inversely as the square of the distance, it is necessary to place the target of the tube in the closest possible contact to the tumor or the skin adjacent to the tumor.

With the apparatus, which I devised myself and which you will see on the screen, I am able to get within seven inches of the patient's skin over the area to be treated, which is the closest possible distance it is safe to place the tube.

In superficial tumors, it is my custom to administer one or possibly two erythema doses at one treatment. The ray in all cases being of the highly filtered type and passing through 4 millimeter filters of illuminum and 4 millimeters of sole-leather, and repeating this treatment as often as the skin will permit.

These treatments have more effect on the skin than they do on any other tissue. Therefore, we are limited in our treatment by the skin tolerance which makes it necessary in deep roentgen therapy, or the treatment of deep-seated tumors to estimate as nearly as possible the location of the tumor and then administer as many erythema doses as possible over as many skin areas as can conveniently be selected; care being taken not to over-lap areas and thus give them a double treatment, and not to select areas at too great a distance from the tumor.

If the tube should be placed at too great a distance from the tumor, little or no beneficial effect will take place, and it is possible that some stimulation may be produced at this great distance which is very undesirable.

It is my belief that the roentgen ray administered in small broken doses, as has been the custom in the past, is a bad practice. It seems to me that these interrupted or partial treatments act as a trauma instead of destroying the tumor tissue; just the same as constant trauma will stimulate the growth of these tumors.

A malignant tumor should never be traumatized by any means. Care should always be taken to warn the patient against personal examinations, or feeling the growth and they also should be told to guard against trauma from any source. Then when the roentgen treatment is administered it should be administered to the point of skin tolerance and repeated just as often as the skin will permit.

Each treatment should be of the highest voltage possible with sufficient current flowing for a long enough time to produce a destructive change in the tumor.

With this method of procedure and technique, we can treat inoperable carcinoma and expect the primary tumor to reduce in size and sometimes disappear temporarily, and even disappear permanently, but usually there is a recurrence from a pre-existing metastasis in some other part of the body. The patient's life may be prolonged for months and sometimes for years; the pain and discomfort being reduced to the minimum.

In inoperable carcinoma, the patient should be operated and post-operative roentgen therapy pursued for some time to prevent if possible recurrence. For example; a carcinoma of the breast with little or no glandular involvement, with roentgenograms of the chest showing no secondarys in the medianstinum, in the lungs or the ribs, should never be treated by the roentgenologist until after the surgical removal of the tumor; and the surgeon should not be satisfied with his removal alone, but should see that the patient has proper roentgen treatment for a long period of time.

Epithelioma is one type of malignant tumor, that we can treat successfully with the roentgen ray without operative interference; regardless of the stage in which we find it. For instance, epithelioma of the canthus of the eye, or other locations on the face, are more successfully treated with the roentgen ray, than they are with the combined treatment of surgery and roentgen ray.

If there are metastasis present, it is of no particular advantage to resect the initial tumor. The entire area should be treated in these cases exclusively, with the roentgen method.

In epitheliomas, without metastasis, or epitheliomas of shorter duration, roentgen treatment will entirely remove them in over ninety per cent of the cases and there will be no recurrence.

There is no scar following the roentgen method and this is an important point to take into consideration, especially when you are dealing with those tumors located on the face or near the eye.

Sarcoma yields more quickly to roentgen treatment than any other form of malignant growth with the exception of epithelioma, and if seen before metastasis is present in other parts of the body, results are usually quite satisfactory.

I will show you one case in particular, that of a boy of ten years of age, who has an extensive sarcoma of the femur which has healed completely and the patient remains well after a period of three years. The only operative procedure that could have been used in this case would have been an amputation at the hip. It was my advice to these people that they accept the surgical treatment. They declined, however, and have since reminded me on numerous occasions that their guess was better than my counsel.

The small round cell sarcoma, the periosteal sarcoma, do not yield to roentgen treatment, neither are they operated upon successfully by the surgeon. They are as malignant as the carcinoma and resist all treatment as stubbornly as carcinoma. The roentgen treatment of this type of sarcoma therefore is only palliative.

The closest cooperation possible is necessary between the internist, the surgeon, and the roentgenologist, to produce the most favorable results in any malignant tumor. The early diagnosis is of the utmost importance, since it is on this fact alone that the prognosis depends.

If the most is to be done for these patients and the best results accomplished, we must not only educate ourselves, but must also carry the educational campaign to the laity.

Dr. Bundy Allen of Iowa City, Iowa, was called upon to lead in the discussion of the paper by Dr. Tyler but was not present, therefore Dr. Overgaard called on Dr. I. S. Trostler of Chicago to open the discussion on the two papers, and he responded as follows:

Dr. I. S. Trostler, Chicago.—I want to compliment the Omaha Roentgen Society on the large attendance and upon the two able articles which have been presented.

I am going to take the liberty of discussing Dr. Tyler's paper for a minute. I want to compliment him on his splendid results, for results show the kind of work he is doing and also how thoroughly he works. In reading his book I find that his technique in some of the conditions is rather different than what is followed by some men whose work I know, particularly in superficial work. He doesn't use as much filter as I am in the habit of using and as many men use but results is what we are after and he gets those results.

Now in respect to Dr. Smith. I talked to Dr. Smith I think about a year and a half ago in regard to this enormous dosage he is giving. He gives an hour and a half seven or eight inches away from the skin and pours in eight milliamperes in fourteen or fifteen minutes. I haven't yet had the nerve to do that, perhaps if I did I would get the results. I would want filters of eight or ten millimeters of aluminum and as much of lead. I note in his preparation of the patient he didn't appear to put on anything but the thin rubber as a filter and used that high amperage. I wonder if his burns are not the result of his lack of filter. I would use the same technique under the same condition, but would use the filters and wouldn't get the superficial burns. Of course we have to burn up the deep tissues but I have never been able to get up my nerve to use as much X-ray on the skin. I believe I get it in deep but I haven't got the nerve to get it on the skin. However, results are what counts and if he can get the results perhaps after all a few burns don't count and the little man from Lincoln might not be able to do as well as he does if he used more filter.

I want to mention a case which we now have under observation which will be of interest. A man came to me from Denver who had been operated for what he said was a lump in his neck. It was in the submaxillary region and after wiring to his surgeon in Denver and getting his answer by telegraph I found it was a lymphosarcoma. He came about two months afterwards and a lump about the size of a small apple—about two inches in diameter. I didn't promise much, told him I couldn't because it had recurred so soon but put him on treatment. I placed the tube about seven inches from the skin, put on five millimeters of aluminum and five of leather for eight minutes. I treated him in just the one area. I saw him three weeks afterwards and the tumor had nearly disappeared. I gave him the same treatment again and he came back—he is a man on the road, and he came back in three weeks and the tumor was larger than ever. Then I thought of Dr. Smith, of what he had told us in Omaha—I think it was a year ago but perhaps it was in Kansas City a year and a half ago, and I came nearer then to using this massive, unfiltrated dose than I had ever done. I used the five inches of leather and gave him exactly the same dosage again. I saw him two weeks afterwards. The tumor had been reduced to a little less than when I had first seen it but there was quite a little erythema and I didn't want to produce a skin burn so I stood him off two weeks and gave him a little less with only the leather filter and in three weeks the tumor had again nearly disappeared.

Well it was a sort of come and go affair and I thought I would watch that without any further treatment. That is now nearly three months. The tumor has gone. The man has no sign of anything there except the scar from the operation. I see him about once every three weeks and I expect it to come back and if it don't I will of course, be very much pleased.

In the breast, where they have those big ulcerations I can see where Dr. Smith, with his unfiltered treatment would be justified, but my experience leads me to say that unless we have an active open ulceration I think we should protect the skin all the time and even if as little as 5 millimeters of leather is used we get a lot of protection. I would be afraid to treat an unulcerated growth without filter.

Dr. Overgaard—These papers are open for general discussion. Gentlemen:

Dr. B. H. Orndoff, Chicago.—It seems mighty encouraging to see such a good attendance in a roentgen meeting. I would like to compliment the Omaha Roentgen Ray Society for the interest they are able to obtain in this section of the country. I attended recently a meeting of the American Roentgen Society in Detroit and they were all expressing their pleasuse at the attendant and enthusiasm manifested there in roentgen work. Since then I have attended a meeting in Kansas City in which the same thing was repeated. I am still more pleased to see the attendance here because I believe it is the best showing yet. Perhaps that speaks for the fact that Omaha has been rapidly—well getting on to the map for the importance of their work in the medical science and in developing the newer views and especially that of roentgenology.

Now the papers this morning are merely the expression of the advanced situation in roentgenology which Omaha has come to occupy. We are not in the habit of hearing papers so far in advance in meetings as they are. Many phases are brought out which are very interesting for discussion but I will not take much time for many excellent papers are still to be presented.

The first thing I might speak of is in regard to technique, and I am much interested in the technique that has been used in this work. I think that it is probably a material reason for the success which has been obtained. The tendency has been largely for the enormous penetration. For my part as a single individual I have been unable to confine my ideas to the necessity of as large doses of the enormous penetration I cannot get away from the idea that it is the X-ray that remains in the tissue that does the good and not that which goes through the patient. This leads us to the question of what it is in the cancer which is destroyed and at the same time has no effect upon the normal tissue cells. In other words, in a given area are cancer cells and in that area are normal cells which we know it would be disastrous to destroy or eradicate, then if roentgen ray had no selection we would certainly do more damage than good by the fact that we would leave the patient in worse condition than the one we cured. The cancer is a foreign cell, it develops rapidly without bounds or restrictions and does not carry with it the structure of the normal tissue. It develops without nerves or with abnormal vascular systems and perhaps it is the nervous system which prevents the normal tissue from being destroyed, upon which we depend for the action of the roentgen ray, and we have tissues under the control of the nervous system for reproduction, tissues supplied by the nervous system continuing to be normal and growing normally and others without the control of the nervous system which can be destroyed readily by the roentgen ray. That is a subject which will bear further time and discussion.

Now if I might say one more thing. The question of treating active cancer cells with roentgen ray as we have seen demonstrated. How are we going to get to the cancer cells with the X-ray by the close fire method. You all know and understand that the tissues of the abdominal wall, for instance, in treating a carcinoma of the uterus, act as a screen so that the first part of the dose lies in the skin, the next dose in the tissues below the skin, and when we get down to the cancer tissue itself, we have very largely that part which does not stop in the cancer cells because the screen has stopped the soft rays.

I feel we must not attempt to care for such advanced cases alone, but in order to do the greatest good possible for the patient we must combine surgery with the roentgen ray. I feel this will materially increase the recoveries.

Recently in Chicago a young man has advanced an idea for the growing of skin over an operated area by means of an adhesive plaster which he puts over it. He has been able to produce a new growth of skin without graft in a period of time which was miraculous. I didn't know it was possible to grow more than a quarter of an inch of skin a day but he has done much better.

Now I feel we must have the cooperation of the surgeon, not as we have heretofore asked, not to insist to the surgeon that we can materially help him in diagnosis and in therapy, but the kind of cooperation I would like to ask for is that the surgeon help us in producing better results, ask him to take the inoperable cases with the understanding that they are inoperable and that it is no blot on surgery to have a surgical death rather than a cancer death, but that we are asking him to remove a large area of the skin and as much of the cancer as possible, understanding that there will be cancer cells left but that he will do the work leaving as large an area exposed as possible, then cover these areas with this new method of adhesive plaster, and if the skin grows too fast burn it off—it would burn off with such treatment as we have had outlined. Now this method has been carried out in several places by three or four workers that I know of, with excellent results. Now to this unexposed skin area you can give enormous doses without damage—three or four times the maximum. The result of so treating the whole area would be to produce an exudate on that exposed muscle tissue. There will be places where you will find small areas of cancer tissue, probably there will be areas there the size of a hen's egg, or half that size, but under such enormous dosage those cells cannot live. Of course you will kill some of the muscle cells but they will be reproduced, they have a nervous system, but the cancer cells will die and the skin will heal over in a short time with your adhesive plaster method and then I believe we will have a method which will materially increase the recoveries from the far advanced, inoperable cancers.

Dr. M. E. Vance, Lincoln.—The presence of so many dentists must indicate to you men how much we appreciate the privilege of association with you in this meeting. The work you men are doing is of growing interest to the dentist.

I would like to have Dr. Tyler explain to us the method of applying his treatment. It is somewhat new as applied to the face and to the jaw, I mean as relating to the teeth. The boy he had here is an interesting case, it probably is quite unusual but those cases of that kind probably come to the hands of the dentist from time to time and the surgical operation has been the one most used. I would also like to know what his after-treatment, if any, is, following the X-ray work.

Dr. Tyler.—In answer to the question just asked about the technique used for the treatment of the sarcoma of the maxillary sinus I would say briefly it is as follows:

The skin distance, that is the distance from the X-ray tube to the skin is eight inches, closer if you can get it. Dr. Smith has devised an arrangement so he is able to get within seven inches, mine only allows me to get within eight inches. We used six millimeters of aluminum filter. Between the aluminum filter and the skin surface we used a quarter of an inch of sole leather, then we covered the surrounding parts with sheet lead as shown by Dr. Smith. That is to protect the skin around the growth which we do not wish to treat. This sheet lead is one-eighth inch in thickness and has a square hole cut in it so you can mark the skin so there will be no chance for overlapping or missing because what you are trying to do is to eradicate a growth which will take the patient's life if you don't get rid of it. You noticed the little square cut in the sheet lead. When the erythema appeared we began to use plain white vaseline on the face applied three or four times a day, just enough to keep the air from touching the skin and causing pain. Usually in sarcoma it is not necessary to scar the skin, simply produce an arythema. If you feel this boy's skin you will notice it feels like leather. That is the change which takes place in normal tissue if exposed to heavy treatment.

The treatment occupied the following time. We gave him the maximum dose as shown by Dr. Smith. You can either do that at one sitting if you have time, if not at three or four sittings, but give the maximum dosage as quickly as possible, then wait for the skin reaction to see how much the patient's skin will bear. After you have found out how sensitive he is you repeat the dose. Usually we allow three weeks to elapse between treatments, sometimes four, depending on the skin reaction. We expose not only the growth itself but the lymphatic areas into which that growth drains. We go in not only through the outside of the cheek but we go through from the front and we reach the ethmoid cells; because the metastasis is up through the ethmoid and down into the parotid and the cases which prove fatal are the ones which go up through the ethmoid to the brain. After it has reached the brain it is impossible to get rid of it.

Dr. Orndoff spoke about the effect of X-ray being chiefly due to the rays which were stopped in the tissue. That is true. There is another effect wnich some men claim takes place, and I feel is true. That is that the passage of these hard rays through the tissues sets up vibrations in the tissues forming the net work of cells so that those little vibrations which are normal are changed and different vibrations set up jarring them to pieces just as a stick of dynamite set under a brick wall changes the structure of that wall and I believe that in this way destruction takes place.

Another reason why destruction of the cancer cells takes place by application of the rays is because of the fact that they do not have the same resisting power of the healthy tissue. You can produce exactly the same thing on the healthy tissue if you give a strong enough dosage. But the diseased cells are younger and more easily destroyed than the normal cell and it is on that narrow margin of safety that we work and on which successful treatment depends.

Dr. Vance—There is one more question I would like to ask. I have a patient with a growth coming down between the two upper bicuspids on the left side. Now this is either a giant cell sarcoma or a round cell—I think it is a sarcoma without question, and it has come down to about the size of a cherry. It has been snipped off two or three times and it bleeds profusely. Now in this, in the application of X-ray would it be necessary to extract the teeth.

Dr. Tyler.—It would not.

Dr. R. L. Smith, Lincoln.—Dr. Orndoff assumes that I use the ray without filter. That is erroneous. I always use filter except in some ulcerated tumor. In those cases I think it is wise to take out the filter for one or two doses. I always use filters. I always use four millimeters of aluminum and four millimeters of sole leather and use sheet lead for the protection of the patient. The patient is entirely covered except the small area which is being treated and after that is treated it is covered up and a new area exposed. Only one area is exposed at a time.

As to the large dose. If a small dose is given I don't see how any result can be had. I know I tried six, seven and eight inch spark gaps for two or three years and I think I brought those patients to the grave much sooner than if I had let them alone. I think you have to hit them hard and do it quick.

As to the suggestion of cooperation of the surgeon I think it is a most excellent idea. The patient is going to die anyway and we know that much. If we treat her at once it will not be a success. So I have tried to get surgeons to remove everything they could and leave the site open and give us a chance, and I think that is the way to treat these extensive lesions—remove all possible and then treat with X-ray. But I can see no advantage in operating on a breast where the lungs are full of metastasis as shown by your roentgenogram, which should be made on every patient before a surgical procedure is instituted. But to take the large inoperable cases and skin them off and then pour in the X-ray I think is the rational treatment.

Dr. Overgaard announced that Dr. McCandless was unable to get here for the morning program and had asked him to make his excuses. He then called on Dr. W. P. Wherry of Omaha, who discussed the value of the Roentgenogram in Treatment of the Accessory Sinuses. He pointed out that the mere statement that the sinus was clouded was not sufficient but that by taking the roentgenograms from the right position you were able to get a more definite idea of the pathology and by working with the roentgenogram before one could do much better work. The discussion on Dr. Wherry's paper was opened by Dr. H. B. Lemere, of Omaha, followed by Dr. Rainer of Grand Island, Dr. M. E. Vance of Lincoln, and Dr. B. H. Orndoff of Chicago.

Afternoon Session.

The afternoon program was opened by Dr. Boyd

Gardiner of the Mayo Clinic, who gave a very interesting talk on the method employed at the Mayo Clinic for handling dental roentgen work. He said that at the Mayo Clinic they used an ordinary dentist chair, with the patient in an upright position for taking the teeth films, and he showed the proper method of placing the films in order to get the 3rd molar, illustrating with a blackboard sketch the exact position in order to get the necessary information for the operator. He stated that 97% of the people going through the dental department needed extraction. He also stated that they were trying to co-operate with the home dentists by sending the cases back to them for further treatment, with an outline of the pathology found and the work necessary.

This paper was discussed by Dr. B. H. Harms of Omaha.

Dr. A. L. Smith of Lincoln, Neb., talked on the subject of "Dental Infection in Children." He made a very earnest plea that this be carefully watched, and for cooperation of the dentist and the child specialist in this work. He pointed out the close relationship to the child's general health and how the seed for much ill health in later life was laid by dental infection early in life. He believes that the detriment to the second teeth and to the formation of the jaw caused by the early removal of teeth if necessary in order to remove pathology is much less than the danger to the child's general health of the constant infection. The discussion was lead by Dr. J. B. Fickes of Omaha, who heartily seconded Dr. Smith's suggestions about removing the teeth and urged that the internist follow up his instructions that the child visit a dentist and asked for the cooperation of the physician in their work.

Empyema.

A. E. Mozingo.

(Journal American Medical Association, December 21, 1918).

The surgical treatment of empyema by a closed method is described. The chief features of the method are summed up as follows: "1. A single early, minor operation without danger of shock or collapse of the lung. 2. Intermittent removal of secretion and antiseptic treatment given through a small rubber tube, with a bulb syringe. 3. Rapid partial sterilization with neutral solution of chlorinated soda (Dakin Solution), followed by complete sterilization with a 2 per cent dilution of liquor formaldehyd in glycerin. 4. Maintenance of negative pressure in the empyemic cavity, tending to early obliteration of the cavity. 5. One dressing which will last several days and no skin irritation. 6. Emphasis on simple physical principles rather than on major operative surgery." Details of the method are given at length and several cases are reported as treated by this closed method. A total of thirty-two cases were treated, twenty-six of whom, or 81 per cent, having completely recovered. A number of them were of long standing. The complications which have been observed included communication between the cavity and a bronchus which Mozingo thinks is more frequent than is generally supposed. One patient developed spontaneous pneumothroax, and a brief history of this case is given. A comparison is made with other methods, and the following advantages claimed: Absence of shock and collapse of lung, perfect evacuation, and cleansing of the cavity and absorption of toxins, prevention of fixation of the lung by compression and more rapid sterilization. Dakin's solution followed by 2 per cent dilution of liquor formaldehyde and glycerine is the ideal antiseptic, and communication with the bronchus is not a contraindication to its use. Constant negative pressure gives the maximum expansion of the lung, and the irritating and antiseptic action of the sodium hypochlorite solution causes rapid obliteration of the cavity. In uncomplicated empyema the patient need not be kept in bed. Test smears are negative when culture are positive if Dakin's solution is used, and visa versa when formaldehyde-glycerine is employed. Roentgenographic and bacteriologic facilities, while always preferable, are not absolutely essential with the closed method, which is also attended with great economy of time, labor and dressings. It can effect cures in many cases similar to those originally treated by the Schede, Eastlander or Delorme operation. It is practicable at the home and in country practice. Hypochlorite solution of increased strength over Dakin's solution in both alkalinity and amount of available chlorin can be safely used in empyemic cavities, or Labarraquo's solution, diluted to the strength indicated, can be substituted for Dakin's solution. The closed method offers good chances of effecting cures in cases of double empyema through the possibility of treating cavities on both sides at the same time, which treatment is impossible by the open method.—(American Journal of Surgery, March, 1919).

It is figured that seventy-five per cent of the sugar used in the United States has to be brought here in ships. Eating and drinking more sugar than is necessary is really monopolizing for selfish purposes ships that could be used to carry troops and supplies.

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Germany and the American Chemical Industry.

Physicians should not neglect a study of the "Report of the Chemical Industry," recently published by Property Custodian A. Mitchell Palmer. Our profession have for years paid unmerited tribute to German efficiency as producers of pharmaceutical preparations. Professing friendly relations in trade with us, they have secretly and systematically sought to strangle every American aspirant to the manufacture and sale of medicinal preparations. Now that the ulterior purpose of "scientific benefits to humanity," are shown to be purely selfish acts for controlling the chemical industry of all the nations as an essential to the manufacturing of munitions for war to conquer the world, no liberty loving physician is excusable for asking his patients to buy German made goods in competition with American products.

The 1918 Year Book.

By the Council on Pharmacy and Chemistry of the A. M. A. is on the market. It is a compilation of their reports founded on analysis of compounds prepared and advertised as new and efficient therapeutic remedies. Physicians in every community should procure a copy of this book, keep it on their desk and when about to order some familiar pharmaceutical preparation, consult that report for the Council's opinion on its medicinal qualities. Why prescribe compounds of unknown, inert, or unscientific application? Polypharmacy does not benefit our patients, and discredits our intelligence with good pharmacists.

Our Board of Control.

We commend Gov. McKelvie for recognizing the necessity of medical and sanitary knowledge, combined with administrative ability in recommending a physician as one member of that Board. Of the several institutions under the care of that Board, a majority of them house the insane, feebleminded, and morally delinquent wards of our state. They cannot be cared for in private homes. To place these afflicted members of our families in institutions, built, provided, and managed, under the direction of men selected for their purely business qualifications, is akin to employing carpenters only for the complete construction of a modern residence. May Governor McKelvie's example in appointing a qualified physician as one member of the Board, be a continuous custom. Our State Medical Association should recognize the progress thus made, and cooperate with the Board in selecting the physicians-resident or non-resident of our state—best adapted by nature, and qualified by training and experience, to become the immediate caretakers of our public wards. We owe it to humanity, and our state and national reputation, to cooperate as County, Councilor and State Medical Association organizations, in preventing diseases by enforcing sanitary laws, and dispelling ignorance with intelligence in applying rational medical and surgical treatment in the care of the sick.

Regular Meeting Omaha-Douglas County Medical Society, March 11, 1919.

President Dr. W. P. Wherry, Presiding.

The regular meeting of the Omaha-Douglas County Medical Society was held at the Methodist Hospital, Omaha, Nebraska, on March 11, 1919. The meeting was called to order by the president and there being no special business the usual reading of the minutes and other miscellaneous matters were dispensed with, and the meeting proceeded at once to the consideration of the clinical program.

Dr. Wherry called upon Dr. W. O. Bridges to take charge of the program.

Dr. Jonas.—It appears to me that these lessons in clinical discussions ought to be very valuable to us all. It is one thing to write an article and entirely another thing to present a clinical case. I think after all the most valuable form of study is case study. As students, you can all remember when you got through with the text book and you came to the bedside, how exceedingly interested you were. You found that no amount of description would visualize a case as it actually appeared when presented to you at the bedside. Often I have read the most elaborate description of a condition and wondered what it looked like. And so it seems to me that this method of study, which the Omaha-Douglas County Medical Society begins tonight, ought to be a very practical and useful method. We don't for a single moment think we are authorities, but we present the cases for your consideration and many of you will see points about the cases that have been entirely overlooked. These points may be brought out in the discussion.

I shall present two exceedingly interesting cases, one is a glandular infection, the other a bone lesion. both neoplastic in type. They will illustrate to you the difference between glandular connective tissue growths and boney connective tissue growths.

(First case brought in).

We have before us a young man 26 years of age, who presents a picture of rugged health—perhaps a little overnourished for a man of his height yet he has considered himself a specimen of perfect health. He was not aware he was ill in any way until the latter part of December when he had a throat infection. He consulted a physician who lanced one of his tonsils, right tonsil, and evacuated a large quantity of pus. Just what the nature of the infection was was not determined, no microscopic examination was made, so we are unable to say what type of microorganism existed.

I saw him a short time afterwards, between two and three weeks later. He then presented himself with a nodule about the size of a large walnut above the right clavicle in the supra clavicular space. Other nodules could be felt, a half dozen in all, quite movable, no tenderness, no suppuration—they were soft and gummatous. In looking into the throat, the tonsils were so large they almost touched in the median line. Taking into consideration the clinical history, I naturally thought there might be a connection between the infected tonsils and the nodules and I suggested that his tonsils be removed. His tonsils were removed and he made a rapid, smooth and uninterrupted recovery. The supra clavicular glandular affection did not improve, the glands became very much larger and continued to enlarge until they nearly filled the entire supra-clavicular triangle. The mass of glands began immediately above the clavicle and extended upward under the sternocleido-mastoid muscle almost to the mastoid process, not painful, fairly movable, and apparently not firmly attached to the deeper structures of the neck. In palpating the right armpit one could feel a well developed nodule. In a patient as fat as this one, glandular enlargements of the ordinary size cannot be palpated. Therefore only larger growths can be located by palpation. When I feel a nodule in the armpit of any individual who is fleshy, I know it is of more than ordinary size. In carcinoma of the breast, I may say that in absence of nodules in the armpit on palpation, I do not exclude the enlargement of glands because sometimes they are so small and covered up with fat that I usually operate on suspicion and my suspicions are usually confirmed.

In this case there was a large nodule on the thoracic wall on the same side where we had the glands in the neck. Now the question arose: What had we to deal with? That it was an infection was apparently evident. Then we began to consider other lesions which might be present; Hodgkins for instance. You know Hodgkins disease is an infectious, progressive glandular infection characterized by glandular nodules in the cervical region and in the axillary spaces, on one or both sides, the inguinal regions and in the thorax glands are enlarged, the spleen is enlarged and likewise sometimes the liver, occasionally we have a rise in temperature; in one type of case running up to 102 and in another type 103 to 104 evening temperature.

In the present case there was a distinct absence of any of the principal characteristics of Hodgkins. We had only the cervical and axillary glandular involvement on the right side, none elsewhere, consequently we could exclude Hodgkin even in its early stages. We might have thought of tubercular and simple adenitis. Both of these conditions are rather slow in their development. In our case, the glandular growth had been rapid suggesting a sarcomatous growth, this was our pre-operative diagnosis.

Operation.

You will note that we operated through a large space by lifting a large triangular flap. The package of lymphnodes closely hugged the adjacent structures, but there were lines of cleavage permitting them, with great care, to be separated from the subclavian vessels and clavicle. The mass was lying against the jugular vein and carotid arteries but not firmly adherent to these vessels. They could be separated with a little care, we had no accident of any kind. It became clear, upon opening the structures, that we had no Hodgkins disease here. Hodgkins disease is looked upon as infectious, a great many men like Virchow and Cohnheim and Sternberg are among those who look upon it as a tuberculous process. They have never discovered bacilli in the glands but they have very much the appearance on their cut surfaces of tuberculosis. The surface is yellowish sometimes pinkish, sometimes, soft in the center, resembling tuberculosis. It has been claimed by Coley that Hodgkins is a general sarcomatosis or gradually undergoing sarcomatous change yet so far as I know nobody else has adopted this view.

When we dissected the neoplasm out we found a mass of glands twice as big as my fist, these glands were extremely vascular, almost purple in color, for a moment I thought they were black, suggesting melanosis, but the entire mass was vascular and upon examination we found we had lympho-sarcoma, a sarcoma of the lymph glands of the neck.

It is very important to operate early in these cases for the reason that we very early have mediastinal metastasis and when so they cannot be operated.

Therefore in making an excision of these glands whether it is for sarcoma or for Hodgkins disease you should be very careful to go deep and get all the glands. Mediastinal involvement is a serious matter and while some of these cases have been operated on, a good many of them were beyond the reach of any operative interference. Operation should be done early through a large, wide incision —don't stop to think about the cosmetic effect in removing glands because if you are going to get results you must get beyond all affected tissue before it extends to the various distant parts of the body. We have put this patient in the best possible position where he has a chance to recover. Bunting of Madison, Wis., who is in charge of a premedical school, thought he had discovered the germ which caused Hodgkins disease and he made a vaccine and injected it. Frank Billings became interested and advocated it for a year and then found the enlarged glands disappeared for awhile and then recurred, the progress was very rapid and it was very severe, and soon invaded the mesentery and the mediastium, there was a very rapid ending.

In this case we think we have got ahead of the infection. We have made a radical excision of the glands as we do in cancer, we laid the sternocleidomastoid muscle bare. I would like to say one thing in technique of removing glands, do not injure the spinal accessory nerve especially that branch which enters the trapezius muscle in the neck otherwise you have a drop of the shoulder.

Now while we believe we have gotten ahead of this affection one must be careful about making too favorable a prognosis. I have operated many cases in the last twenty-five years. There are apt to be glandular metastasis—glands which are imbedded in fat which cannot be felt or seen and consequently there are very early metastasis. In this I have made a complete dissection, removing the entire set of glands and fat from the mastoid down to the thorax. The only hope is to be as radical as we possibly can and not try to dig out glands individually; dissect them out "en bloc." By also removing all the fat we could see the transverse processes of the cervical vertebrae and while we put forth every effort to make a clean dissection, I have been very reserved in my prognosis in this case.

(Other patient brought in).

This is a bone lesion—a sarcoma of the bone. This young man was strong and vigorous, always worked hard, all his life, always considered himself to be a specimen of perfect physical manhood, he has had only the diseases incident to childhood. About two years ago there appeared a small tubercle on the left tibia. It was very small, there was little pain. It has continuously grown from that time to this.

Sarcoma of the bone, as you know, is a very serious affection. I have often said I preferred to have lightening strike me than to have sarcoma of any of my bones. Nearly all I have seen resulted fatally. We have operated in many ways. We have amputated. Sometimes we have thought we had achieved a permanent result and sometimes in a year or two we found metastases with a fatal termination. In the last two years we think we have done better with resection. Of late years we have tried resections of the bones, implantation of bone grafts taken from other parts of the body, autogenous grafts. Some of these cases have gone on two or three years and are still alive.

This case we present tonight shows what is sometimes called bone cysts. The X-ray shows a dark shadow in the upper quarter of the left tibia—shows what has been described as benign bone cyst. This man had a distinct swelling in the upper right tibia, a firm hard swelling, rather uniform, probably more pronounced in the anterio posterior region. Pressure over the anterior area brought out some tenderness, there was no discoloration with the exception of large veins coursing through the skin over the most prominent part of the swelling, which is not characteristic of any special bone lesion.

This man had noticed this swelling for quite a period, beginning two years ago, it then became painful, the pain was particularly severe at night, so much so that he was unable to sleep for the pain. I thought possibly he might have benign bone cysts. I advised an anesthetic to make an incision over and into the bone and scrape out the contents of this cyst. He readily agreed. We found a thin boney shell, the knife broke through it. I had prepared to chisel into this boney cavity but the knife easily penetrated the bone, we appeared to have cut into a large angioma the hemorrhage was so profuse. We removed a section of the tissue and sent it to the laboratory, frozen sections, showed a medullary sarcoma, giant cells, with considerable round cell infiltration.

The first thought that occurred to me was a resection, to remove the section of bone that had become enlarged, and replace the excised bone by an antograft, implant it and fasten to the articular surface of the tibia but we found that the growth had extended into the tibial articulation and perforated it. No consent having been obtained for an amputation, we allowed him to recover from his anesthetic in order that we might explain to him the difficulty of the situation. There was nothing left but an amputation. It is always a shock when you have promised a good leg to a man and then have to come back to tell him you have got to cut his leg off. He decided to have it done. So here we have the patient with his amputation which was done about a week ago. We put in very few stitches, only four or five. I never close an amputation wound with button hole stitches. The wound, as you see, is now healing very well. In sarcoma of the bone as long as it is within the boney walls, that is, as long as it has not broken through the periosteum, the prognosis is very favorable but if it involves the periosteum and especially the periosteal connective tissue, the prognosis is very bad. Progress is very rapid and the patient very soon dies from metastasis.

I have resected some periosteal cases. I remember one case of a boy. We took out almost the entire fibula but the boy died of metastasis.

I think we are a little more certain in our diagnosis than we formerly were. We used to include luetic conditions—eburnation of the bone sometimes rests upon luetic basis which might be hereditary or congenital. Since we have the Wassermann and other tests we can usually distinguish luetic infections. Since we have a method of distinguishing syphilitic growths from sarcoma, we exclude them from operation. We don't operate, we give them salvarsan. It is now less difficult to distinguish tubercular bone lesions. It isn't very long since Koch found the tubercle bacillus—1882. Our diagnoses have become more exact since the advent of X-ray so while the results of operation in the course of years have apparently become worse this is really not a fact. Consequently we have excluded many lesions recently from operation, which formerly were called sarcoma.

These two cases are both connective tissue growths, the one has originated in glandular tissue and the other in bone, both are malignant and prone to early metastases. But I am hopeful that, as our means of diagnosis improves, we may be enabled to recognize these affections in their incipiency with the results of a better prognosis.

I wish to be more explicit about resection of the bone for sarcoma. There have been some very successful operations where the patient remained well for months and sometimes for years and I would like to take up just a few moments of your time to show what I mean.

For example. A case of sarcoma of the upper end of the humerus which had involved one-half its upper end, nearly to the articulation. Patient objected to amputation, and particularly, his wife. Here we had the humerus, where the growth involved the upper head of the bone. Where it articulated with the glenoid cavity it was unaffected. It became necessary to remove one-half of that bone and then supply the defect. To reset to the shoulder joint would make the arm so short as to be of very little use. A man can spare the fibula very well so we took out a part of the fibula and replaced the portion of the bone. We dug out the medullary canal an inch and a half up to the glenoid cavity and made another hole in the shaft, then placed fibrular graft into the medullary holes. We had our fibula fastened very firmly, it healed in place and made a useful arm. We can very often excise a portion of affected bone, providing the sarcoma has not broken through the periosteum. Where it has broken through the periosteum it is useless to try and an amputation is the only hope.

I think antogenous bone transplants will be the transplants of the future. We find that nearly all metallic transplants become infected and cause trouble unless we follow the Lane technique. Lane is so scrupulous in his technique that nothing touches the wound except the instrument which has been especially sterilized. Nurses are not allowed to thread needles by hands but with instruments. All sponges are handled by instruments.

Allow me to illustrate in this sketch on the board. This is the tibia, here is our bone cavity. The bone had become enlarged on both sides into a large egg shaped protuberance. The bone shell was broken through by the scaplel. We had no support left here. These cavities extend underneath and to the articular cartilage but not beyond it. Suppose we had left a half inch or so of bone surface to which we could attach a transplant. We can excise a part of the tibia by splitting it for a distance corresponding to the amount of bone to be excised and place in the defect. We can also use a section of the fibula to supply the defect.

An autogenous bone graft can be used with a great degree of certainty. A bone graft is a living thing and possesses a certain amount of immunity of its own, therefore offering a greater assurance of union with the bones to which it has been transplanted. It will also take care of a certain amount of diseased tissue.

Coley's serum has failed with the profession but has succeeded to a certain degree with him. He has been treating his cases for many years, some of them constantly for ten and fifteen years. He has, after many years of unremitting effort, succeeded in curing ten per cent of his cases.

Dr. Gifford.—The patient I wished to present is a barber, and in these strenuous times barbers are very apt to drink bay rum. He drank bay rum several times and it didn't phase him any. Then he got a new batch of bay rum and happened at the same time to be constipated, and had a cold and the doctor told him his kidneys were not acting well. Friday night he took a couple of swigs of this bay rum. On Saturday he felt rather sick at his stomach but went on working and on Sunday night he went entirely blind between seven and eight, so that he couldn't tell daylight from dark. The doctor wrote me and I advised him to send a sample to the State University of Iowa (this was an Iowa case) and have it analyzed for wood alcohol. He did and it was found to contain thirteen per cent of wood alcohol. I found on seeing the man a typical case of wood alcohol blindness. Wood alcohol blindness has certain very definite characteristics. It is almost always preceded by a certain amount of nausea, malaise, and then blindness comes on very suddenly. The blindness becomes complete and then in the course of two or three weeks sight begins to return. The patient feels encouraged, the doctor feels encouraged, and they think they are going to be out of the woods.

But the sight soon fails again and the case usually ends in complete blindness. The fundus is generally normal at first but atrophy is apparent later. I only know of two cases, one a patient of mine, one a patient of Kuhnt of Bonn which ended in recovery of nearly normal vision. Now the moral is, of course, to shun bay rum, Jamaica ginger, and flavoring extracts as you would the devil and all his works, because they are nearly all made up with a large percentage of wood alcohol. Some people will take wood alcohol and use it quite freely without feeling much effect from it; then some person as in this case, where the elimination is poor, will go blind or die. It is dangerous not only to drink the stuff but to inhale its fumes. Men shellacing the inside of beer vats are in especial danger, as they use a mixture of wood alcohol and are closely confined with it several hours. I had one instance of this sort occurring in a painter doing an extra fine piece of graining. He shut the room up tight while working to keep out dust and used a varnish made up with wood alcohol. He finished the job at four, at six he was blind.

It is a pretty good thing to remember that wood alcohol is present in a great many things in which it ought not to be. We should be able to prosecute the manufacturers under the pure food law. I tried several years ago to get some legislation on this but it was not passed. It is important to know what is the cause of the blindness because if you have a case of this kind and don't realize that it is such, a dozen other people in the same community may drink the same stuff and go blind or die from it.

(Child brought in).

Here is a little child of about four and a half years, and as you see there is quite an opening just at the left side of the bridge of the nose. The child was brought in with a history that it was playing around outside by itself and fell and hurt its nose with a fork. I didn't pay much attention to the history. The wound evidently was of a kind that could not have been inflicted by a fork. This incident occurred last September. On coming to probe the cavity I found that it extended back at least into the naso-pharynx. Dr. Callfas put his finger into the naso-pharynx to be sure where the probe was and felt what was thought to be a piece of loose bone there and I suggested that it was probably the end of a weed stub because it looked like a weed stub injury. He pushed upon it and out of this opening at the side of the nose-bridge there came a full sized tooth pick. This is a kind of fishy story but if you don't believe it here is the tooth pick. We realized that no tooth pick could have caused such an injury because it went through the bone and down into the naso-pharynx. Then we went back to the source of information, parents. We found that this opening didn't appear for three or four weeks after the accident occurred, it began with a bad bruise, no breaking of the skin but the ordinary black eye; and three or four weeks afterward the skin broke down and this fistula has been running ever since. So while we know it was not caused by the tooth-pick it may have been produced by the fall on some hard thing which caused necrosis of the bone. Necrosis of the superior maxillary is not an unheard of thing. I have seen perhaps eight or ten cases. As to how the toothpick got there, I suppose the child herself got a toothpick and finding she could poke it in, did so and couldn't get it out. So whether she put it in there or some inquisitive relative did so we do not know and possibly never will.

She may have some dead bone down there as well, but she seems to be doing very well. She hasn't a particle of discomfort, the discharge seems to be practically stopped, the wound has a tendency to close, but if we find any more bits of lumber or hardware in this child's head I will report later.

This case is a good example of the fallability of human evidence and the importance of getting very explicit testimony in any case of accident. I remember a child who came to me with a history that he had fallen upon a sharp stick and run the stick into his mouth. Sometime afterward a discharge began from the ear and had continued for sometime. I asked how they knew it fell on a stick. They said they could see the wound in the back of the mouth. I found a mass of polypoid granulations in the ear. I didn't make a diagnosis of the case until I put the boy under ether and found in the canal and middle ear a piece of wood about an inch long and as big as my little finger—the end of a small wooden arrow. The blood had run down the eustachian tube and they saw blood in the mouth and supposed the injury was there.

A small boy came to me sometime ago with a history that he had fallen off a bicycle on a country road—taken a header—and struck in the brush and hurt his eye. There was a perfectly round hole in the center of the cornea and the eye had no perception of light. I eviscerated it and found in it the brass of a 22 cartridge; and in this cartridge cell was a perfectly round disc cut from the center of the cornea. Further inquiry brought out the fact that this boy had had a revolver and had used the trick of forcing in the cartridge with a pen knife. Fear of a licking had led to the story about the bicycle.

(From the audience: Doctor I want to ask if blindness ever occurs from external use of wood alcohol).

There have been cases where persons using wood alcohol, rubbing it on hats, or something of that kind have gone blind; but from just applying as a medicament, I can't recall such a case. I don't think it would be absorbed in large enough quantities through the skin; the chief danger from external application I should think would come from the inhalation of the fumes.

(Dr. Bridges presented a case of inoperable cancer of the stomach).

W. O. Bridges, Omaha.—Cases of cancer of the stomach, I think from my own experience and from that of others with whom I have talked, are greatly increasing in number. I can recall where one case in a clinical winter would be looked forward to with interest, so we looked upon it as rather rare, and twice this year I have had two or three cases at clinics to illustrate different types or varieties.

The object I have in presenting this case is to indicate what can be done where the case is inoperable, and where you desire to do the most you can for the patient as it is a question of great interest to us both as internists and surgeons.

This man is about sixty-two years of age. He came to the office three weeks ago with a history of having symptoms referable to his digestion for a period of several months—belching, nausea, discomfort after meals, until he began to vomit and finally he was vomiting about everything he ate at the time of his coming to me. We made an examination with the usual findings of absence of free hydrochloric acid, lactic plus, and occult blood in stomach contents. Also occult blood in meat free stool. The X-ray examination was not made as not considered necessary. A mass could be palpated occupying about half the area which you see now, extending somewhat up under the margin of the ribs on the left side and to the median line. As he had no home he decided to remain with us for supervision, for direction of feeding, and so forth. You can see the mass extending almost to the umbilicus, and to his right until I can palpate it directly to the right of the median line. This case illustrates the facility with which diagnosis can be made in typical cases in connection with stomach analysis, stool examination, epigastric tumor and history. But in many cases no tumor can be palpated at all and that is the type in which diagnosis is difficult or impossible unless all measures are used for the carrying out of the diagnostic scheme, clinical history, stomach contents and stool examination, and repeated X-ray studies. It is easy enough with our clinical and laboratory technique and study and our X-ray work to reach a conclusion definitely from the composite as to whether a certain lesion exists after it has reached this stage. Where you have made the diagnosis and where anybody would see that it was inoperable then comes the question of what to do for the patient. Now, I will tell you what we do with this man.

We keep his stomach from accumulating food. We first find out how much he can take care of and how much is accumulated from the day before. If he has retained considerable because of some obstruction of the pylorus, or atony of the muscle we empty the stomach because if there is anything that will cause pain and discomfort in these cases it is retained food. First we gave him only thin gruels and fruit juices, then tested him out, and when we got to the point where he didn't carry anything over night then we gradually increased the food intake to find out how much he could take without carrying any over to the following day. Then when we got this determination we have the maximum that he could take care of and then we administered hydrochloric acid and pepsin with nux vomica. The moment you get rid of residual food you get away from pain and you need no anodyne. We don't empty the stomach every day, just now and then, but if he tells us he has had pain we always find something in his stomach. I feel that the great value of treatment in inoperable cancer of the stomach is to allay pain. Where vomiting constitutes the principal symptom there is little pain. Food does not remain long enough to create pain where the patient vomits every day and nearly every meal. Under X-ray examination of many cases there is often a tremendous six hour residue of barium found which would not apply to food because it is heavier and much less likely to cause vomiting than food. If you take these patients, empty the stomach thoroughly and for a time feed them per rectum they will suffer little pain.

Case report No. 2:

I would like now to report two cases recently under observation, of some interest. The first case is a girl about seventeen years of age. She came to the hospital a month ago with a probable diagnosis of Bright's disease, symptoms having been present for about eight or ten weeks consisting of rather frequent urination, pain in right lumbar region, in right inguinal region, loss of flesh, nausea, discomfort after meals, constipation, and so on. When we made the physical examination we found she was not edematous, had normal blood pressure, heart absolutely normal, not anemic, and the question was raised immediately that she had not the symptoms of Bright's disease. Urinalysis (very complete) indicated a large amount of albumin, a good many epithelial cells and a large number of pus cells and bacteria but no casts. She passed 45 ounces of urine in twenty-four hours. The white cell count showed 15,000. Several examinations of the urine were made, all of which indicated a large amount of albumin and pus, and no casts. The urine which was accumulated for each twenty-four hours would show in the bottom of a quart bottle about a half inch of accumulated pus.

We instituted measures to determine the bacteriology of the urine and much to our amazement a pure culture of gonococcus was found. I was skeptical. I asked for a catherized specimen to be sent to the University laboratory where the diagnosis was verified. I made smears from the cervix, the vagina, and the urethra. Those from the first two were negative. From the urethra they were positive. We administered ten grains of salol three times a day, in fact she had been put on this medication before the smears were taken. She was put on a forced feeding diet and she made such phenomenal improvement that in ten days the pus had practically disappeared from the urine and no more gonococci were found on two successive examinations. She became very impatient and we let her go home. Of considerable interest was the limitation of the infection to the urethra and the bladder, and the importance of this bacteriological study.

Case Report No. 3. The other case is that of a girl fifteen years of age, who came to the hospital about a month ago. Her mother had been under our observation three or four years previously suffering from a colon bacillus infection of the genito urinary tract.

The girl had had a slight cough during the winter months and was thought, five or six weeks before admission, to have had influenza. Under observation of her local physician, he later found some trouble in the lung, for which he suggested exploration. The case was then brought to the hospital.

On admission she had a temperature of 101 to 103 daily, respirations 32, pulse about 120. She had difficult breathing, was somewhat cyanotic, her voice husky with a dry irritative cough. The veins of the left upper anterior chest were considerably dilated. There was deficiency of expansion of the left chest, dullness from the second to the fifth rib to the left of the sternum and extending toward the axilla with absence of breath sounds. Over the rest of the chest the respiratory murmur was quite harsh.

The white cell blood count was 59,000 with a preponderance of polys to 95%. The X-ray, which Dr. Ballard will show you later, indicated a marked shadow in the upper left lung corresponding to the dull area. A probable diagnosis of localized empyema was made. A needle was introduced in the second intercostal space to the left of the sternum, the center of the dull area, and the needle was found to penetrate into a cavity from which was aspirated only a few drops of bloody purulent fluid. An exploratory operation was therefore advised.

Dr. Jonas did this the following day when a definite tumor mass was determined upon, with a cavity into which the needle had previously penetrated. The patient died the following day and a post mortem was obtained when the specimen, which I here exhibit was obtained, indicating a large lympho-sarcoma.

I will ask Dr. Eggers, who conducted the post mortem, to give you his findings in the case, following which Dr. Ballard will exhibit a number of interesting X-ray plates of the cases recently seen, among which is that of the case previously described.

Dr. H. E. Eggers, Omaha: The pertinent parts of the autopsy findings were as follows:

In the left pleural cavity the superior and anterior portions were obliterated by firm fibrous adhesions. Occupying the normal position of the upper left lobe was a solid mass which extended across the median line and was adherent to the right parietal pleura. On removing the left lung it was found to be independent of but firmly attached to this mass. The left lung, when removed, floated. On cutting, it contained an excess of frothy fluid. The mass already referred to was almost cartilaginous in consistency, nodular, about the size of two fists and somewhat flattened. In it was imbedded the trachea and the bifurcation of the bronchi. On cutting into it the center was found to contain five or six ounces of viscous material resembling pus.

The right pleural cavity: Free from adhesions. On removing the right lung it was found to contain an excessive amount of red, frothy fluid in the lower lobe and of clear frothy fluid elsewhere.

The peribronchial lymph glands on both sides of the thorax were considerably enlarged, indurated, and of the same cartilaginous appearance and consistency as the mass already described. The same applies to the posterior thoracic glands and to all thoracic lymph glands. The lower retroperitoneal lymph glands were apparently normal. The upper retroperitoneal lymph glands for about the upper third of the abdomen, some of the mesenteric glands in this region, and at least one of the pyloric lymph glands showed the same change as the thoracic glands. On cutting into these lymph glands they were found uniform in consistency, firm, white, without central necrosis.

The same condition apparently applied to the cervical glands which were uniformly palpable. They were not removed.

On microscopic examination the tumor was found to consist entirely of lymphadenoid tissue, a considerable portion of which was necrotic and in which the normal nodular arrangement of the lymph gland was entirely lacking. Distinct encapsulation of the glands was in general lacking.

The picture is thus that of a typical thoracic lymphosarcoma, showing the usual features, of lateral extension into the regional lymph glands, and what is somewhat less usual, extension upward and downward.

Dr. C. H. Ballard displayed the X-ray plates of this chest, and several other very interesting ones.

At the close of the Clinical program Dr. Wherry again took the chair.

Upon motion duly made, seconded and unanimously carried a vote of thanks was extended to the Methodist Hospital and the staff for the splendid program for the evening.

Dr. Wherry announced that the next regular meeting would be held at St. Joseph's Hospital, by the members of the staff.

Upon motion, the meeting adjourned.

Abstract of Special Report of Attorney General of Porto Rico.

By Herman Goodman, Lieut. M. C. U. S. A.

A report from the Attorney General to the Governor of Porto Rico is an interesting and valuable contribution to the study of vice and prostitution in connection with the mobilization of the National Army of Porto Rico.

Plans to call 12,000 native men to a training camp organized on the island gave occasion for a vigorous campaign for combating the social evil and the resulting venereal disease.

Records of the United States Army for Porto Rico show that during the first six months of 1899 the rate of venereal admission per thousand per annum was 467.80. In 1897 the venereal admission rate for the continental army of the United States was 84.50 per thousand. The average venereal rate for the Spanish troops stationed in Porto Rico prior to the entrance of the Americans was, for the five year period from 1889 to 1893, inclusive, 338.6 per thousand; and from 1894 to 1898, inclusive, 430.8 per thousand; 1898 gave 566 per thousand. These figures are obtained from the annual reports of the War Department for the fiscal year ending June 30, 1900, part 13, which is the report of the

Military Governor of Porto Rico, pages 598-599.

Little change had taken place during the twenty years. The first weekly report of conditions at Camp Las Casas gave 471 admissions for venereal disease among the recently drafted men which was higher than for any other camp. Official Bulletin, Ausust 10, 1918.

A Special Hospital for Women was maintained by the Municipality of San Juan, to register and treat public women. From July, 1912, to July, 1917, 677 women were registered for the first time in that institution. During the fiscal year ending June 30, 1917, 1,540 women were clinically examined to determine whether they should be treated or given a health card. (Report of Mayor of San Juan to Governor, 1912-17, inclusive.) In other cities of the Island the police registered the women. From studies it was shown that 95% of the prostitutes were affected with venereal disease.

By keen leadership, clever direction, and proper co-operation of the police, district attorneys, and judges, the Attorney General, Mr. Howard L. Kern, succeeded in having the criminal laws against prostitution actively enforced. From July 1, to Dec. 30, 1918, 1102 cases were brought before the courts and 824 convictions obtained. The sentences averaged 8 or 9 months each, and were imposed for periods ranging from three months to a year, according to the seriousness of the offense and the evidence adduced at the trial.

Three district jails of the island were reconstructed for women only. Complete equipments for the medical care and venereal disease treatment of these women were installed. In all the hospitals, the women were treated for vermin and itch. The patients were vaccinated and treated for hook worm which is universal. Surveys made showed that 92% of the women had gonorrhea; 12% had infectious lesions of syphilis; and 42% more had four plus Wassermann reactions although without symptoms. Treatment for the venereal disease was instituted. The cases of gonorrhea were all improved and possibly rendered non-infectious. Salvarsan and mercury were intensively applied to the syphilitic cases. All the infectious lesions were cleared, and about 50% of those with four plus Wassermann reactions have had them reduced or rendered negative.

Removing these sources of infection had a wonderful effect upon the venereal disease rate at Camp Las Casas. During the first six months at this camp of 12,000 men, only 32 new cases of venereal disease were acquired, which is at the rate of 6 per thousand per annum. In a report to the Surgeon General of the Army on the admission rate of venereal disease for 44 camps and cantonments for the six months period ending December 27, 1918, Camp Las Casas stands third lowest with a rate of 49.7. Rates as high as 803 per thousand are recorded and the average is 189.89. These figures well illustrate the remarkable result of the rigorous enforcement of the law against prostitution on the health of this army community.

Among the recommendations of Mr. Kern, to prevent a recurrence of former conditions is one to so amend the sanitation laws as to provide effective means to regulate, control and isolate persons affected with venereal disease. The present laws are inadequate. The Attorney General has prepared a draft of such an act in accordance with the recommendations of the national authorities and various state boards of health.

Indeterminate sentences are recommended for those convicted of offenses against public health, where it is necessary to prevent a recurrence of the offense in order to aid the health authorities in the control and treatment of venereal disease.

The Attorney General endorses the efforts of the American Red Cross and other agencies to have the Chamberlain Kahn Act amended so that Porto Rico may secure an appropriation to further the campaign against Venereal infections.

Interesting exhibits follow the report which show how closely the campaign in Porto Rico was followed by the authorities in Washington, and the heartiness of the support accorded. The exhibits also show that the local officials were keen in their co-operation. Personal letters and resolutions from organizations endorse the action of the Attorney General, and offers to aid are numerous and sincere. Medical reports from the physicians at the jail hospitals give complete information as to the character of the diseases found and the results of specific therapy.

The Attorney General is to be congratulated on his stand for public good and his report should be read in full by those especially interested in the present great movement for the abatement of the social evil and the reduction of venereal disease.

Inflammatory pain about the head may have very characteristic gestures. The use of one finger-tip to localize it on the scalp is strongly significant of intracranial syphilis. The finger-tip passing up to the side of the face and stopping on the scalp one inch below the sagittal suture indicates a pain ascending from a tooth and should not be mistaken for a trigeminal neuralgia. In conjunctivitis the hand is laid over the eye. In iritis, the finger is pointed toward it and then passed up the forehead to the inner side of the nose on to the malar process. In glaucoma, the gesture may be reversed as if the pain were emerging from the orbit. Inflammatory pains have three great characteristics. The first is, that pain is elicited by pressure upon the parts; the second, that it is increased by any form of movement of the inflamed part; and the third, that it is accompanied by disturbance of the normal function of the affected part.—(W. H. Thomson, M. D.)

STATE NOTES.

Dr. A. D. Nesbit, of Tekamah, who has spent the winter in California, returned home April first.

The following Nebraska Physicians received their honorable discharge and have resumed practice: Capt. J. A. Henske, Major A. J. Brown, Lt. G. P. Pratt, Capt. John B. Potts, Capt. N. C. Prince, Capt. W. H. Mick, Capt. Allyn Moser, Capt. W. J. Douglas all of Omaha, Lt. L. J. Kilian, Blair, and Major A. E. Westervelt, Craig.

The above is just a small percent of the honorably discharged physicians of the state, but we do not have the names of the others.

Dr. Louis E. Moon, of Omaha, has gone to New York City where he will spend the summer, in doing Colo-Proclologic work. On returning he will be located at 1012 First Nat. Bk. Bldg., Omaha.

COUNTY SOCIETY NOTES.

The Lancaster County Medical Society held their regular meeting April 26th at the State Orthopedic Hospital, at Lincoln. Drs. Zemer, Finkle and MacKinnon were on the program.

The Custer County Medical Society held their regular meeting at the Public Service Club Rooms in Broken Bow, May 13th, at 1 p. m. Drs. F. A. Burnham of Arnold, G. E. Pennington of Broken Bow, A. D. Dunn of Omaha and C. L. Mullins of Broken Bow were on the program.

NEBRASKA MEDICAL OFFICERS U. S. NAVY, RELIEVED FROM ACTIVE DUTY.

C. E. Beede, David City, Neb.

ORDERS TO NEBRASKA OFFICERS OF THE MEDICAL CORPS, U. S. A.

April 5.

To Camp Grant, Ill., base hospital, from Camp Dix, Lieut. O. E. Coleman, Ainsworth.

April 12.

To Fort Omaha, Neb., from Fort Monroe, Capt. G. R. Gilbert, Omaha.

To Metuchen, N. J., Raritan Arsenal, from Fort McHenry, Major S. R. Hopkins, Hastings.

April 19.

To report to the commanding general, Western Department, from Vancouver Barracks, Lieut. W. E. Mogan, Petersburg.

April 26.

To Camp Gordon, Ga., base hospital, from Fort Sill, Capt. K. F. E. Wegener, Exeter.

To Hoboken, N. J., from Camp Dix, Major R. D. Schrock, Omaha.

HONORABLE DISCHARGES OF NEBRASKA MEDICAL OFFICERS.

April 5.

Capt. L. Little, Clarks; Lieut. C. H. Sheets, Cozad; Lieut. J. B. Kile, Eddyville; Lieut. O. E. Liston, Lincoln; Lieut. C. Q. Dodd, Newport; Capt. J. F. Allen, Omaha; Capt. J. A. Trowbridge, Superior.

April 12.

Capt. W. J. Douglas, Atkinson; Lieut. F. W. Fletcher, Belden; Capt. H. E. Burdick, David City; Capt. W. L. Ross, Jr., Florence; Capt. H. E. King, Genoa; Capt. C. E. Pinckney, Gretna; Capt. A. J. Molzahn, Hay Springs; Lieut. F. N. Townley, Kenesaw; Lieut. A. E. Brix, Lexington; Capt. C. H. Arnold, Lincoln; Capt. F. W. Lake, Capt. O. W. Martin, Capt. C. H. Newell, Capt. J. R. Nilsson, Lieut. F. J. Stodden, Lieut. J. A. Tamisiea, Capt. C. T. Uren, Omaha; Capt. E. E. Cone, Oxford; Lieut. B. V. McDermott, Stuart; Lieut. A. B. Cramb, Tecumseh; Capt. D. B. King, York.

April 19.

Capt. F. J. McRae, Albion; Major F. M. Barns, Harrison; Capt. J. B. McPherson, Hastings; Lieut. H. D. Wilmeth, Lieut. S. G. Zemer, Lincoln; Lieut. E. O. Wilson, Madison; Lieut. J. J. Fossler, Millard; Lieut. A. C. Barry, Capt. H. R. Carson, Norfolk; Capt. S. A. Swenson, Oakland; Major A. J. Brown, Capt. J. A. Henske, Lieut. J. R. Kleyla, Major J. M. Patton, Capt. J. B. Potts, Omaha; Capt. T. J. Kerr, North Platte; Capt. R. Crook, Winnetoon.

April 26.

Capt. F. A. Wilmot, Bethany; Lieut. L. J. Kiilan, Blair; Lieut. C. D. Evans, Columbus; Capt. J. F. Kelly, Dawson; Capt. O. F. Lang, Falls City; Capt. R. E. Hall, Fullerton; Major W. J. Redfield, Grand Island; Lieut. H. W. McFadden, Greenwood; Major P. R. Howard, Lieut. F. M. Swartwood, Lincoln; Capt. W. I. Devers, Lyons; Major A. A. Fricke, Capt. R. A. Moser, Omaha; Lieut. J. J. McCarl, Rosalie; Capt. J. C. Painter, Schuyler; Capt. L. Jones, Scottsbluff; Lieut. J. B. Schrock, Scottsbluff; Capt. J. A. Trowbridge, Superior.

DEATHS.

E. E. Barr, Hyannis, Neb., State University of Iowa College of Med. 1887; aged 56; died suddenly while making a professional call, April 26th.

Private Library.
DR. C. C. HICKMAN.

THE NEBRASKA STATE MEDICAL JOURNAL

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ADDRESS OF CHAIRMAN OF COUNCIL TO HOUSE OF DELEGATES.

H. J. Lehnhoff, Lincoln.

Speaking merely from the standpoint of physicians, we are passing through one of the most formidable periods of all time. The war that is just closing is the nearest approach to a world-war of which we have any record. The pan epidemic that has just disappeared—for a while, at least—has never been paralleled in the limitations of its extent. It has been practically world-wide. To the former Nebraska has given the lives of three physicians; to the latter, the lives of eleven physicians.

Nebraska may be proud to say that over four hundred of her 1550 physicians entered the service of the colors. In proportion to her inhabitants Nebraska stands fifth of all other states in the Union in the number of physicians she gave. No other profession or particular business organization has given so many of its number to the war service as have the physicians and surgeons. This important statement is absolutely unquestioned.

I doubt, too, whether any class of men that have entered the service have been better supported by their respective class at home than have the physicians. The fact that the society fees of physicians in the service were paid by their local constituents, the fact that in a great number of cases other monies in support of the families and homes of physicians who were in the service were contributed, and the attempt to keep places open for them on their return—all these are absolutely unparalleled by the representatives of any other vocation.

Let us come more directly to our present needs. During the last session of the legislature the same old methods of the legislative committee were in vogue. The legislators were met after they had reached Lincoln. Very little influence had been brought to bear upon the minds of these legislators before they appeared at the capitol for service. Before the opening of the session the legislators had thought over all the general legislative propositions and had been approached by the authors of different bills. They had thought over their particular and special interests, had in part decided what favors should be given, what combinations should be made, and the railroading they deemed necessary in order to be effective in their efforts.

The legislative Committee appointed by this body a year ago did a great deal of work with good results. A great portion of the burden fell upon the Lincoln members of the Sub-Committee. At least some of the members of the Lincoln Committee were very active. They succeeded in meeting a number of the legislators, met a number of committees, called several meetings of different committees and organizations, and spent a great deal of their valuable time with very good results. A number of medical and quasi-medical bills came up, every one

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Read before the Second Session of the House of Delegates of the N. S. M. A., May 20, 1919.

of which was duly considered by the committee. The following are a few of the bills that received their attention.

The nurses' bill, the osteopath's bill, the chiropractor's bill, the chiropodist's bill, the christian science bill, the venereal bill, the barber's bill, a bill having to do with physicians' indemnities, a bill pertaining to a chair of eclectic medicine in the state medical school, etc. The committee succeeded in laying the chiropractors' bill aside before it was ever brought well into the light. They spent a great deal of time with the osteopaths' bill, but it was finally permitted to go through with a compromise. The bill now practically permits the osteopaths to do anything but major operations and to give medicines internally. I say this bill was "permitted" to go through. As a matter of fact, the legislative support of the osteopaths was equal to if not greater than that accorded to the regulars. This is no fault of the osteopaths. It is no fault of the legislators. The fault lies with ourselves, with the regulars.

In reviewing the work of the legislative committee at Lincoln I wish to lay particular emphasis on the efforts of two members of that commission, namely, Dr. K. S. J. Hohlen and Dr. Benj. F. Bailey. These men gave an unlimited amount of their precious time to this work. They reviewed all the medical bills of any importance, spent their time in the legislative halls, met the legislators and discussed with them matters of importance in regard to medical legislation. In my opinion it would be in accordance with good ethics if this house should go on record at this time in showing its appreciation of the work done and the results obtained by these two men.

As has been hinted above, the difficulty with the medical profession in the State of Nebraska in having its due influence with the legislators is that they begin to use their influence when it is too late. To repeat, the members of the legislature have partly made up their minds on some propositions before they come to Lincoln. The other fellow has seen our legislator first. In order to gain any favor with the legislator, the medical representative of this body must not only present the merits of his own proposition, but he must correct the mental attitude which the legislator has already formed. We must begin our efforts earlier. In other words, if the Medical Association of Nebraska wishes to produce any results in the legislature, the beginning must be made before the opening of the senate and the house of representatives. The time to begin our activities is not after the legislature convenes, but right after the legislature adjourns. Begin before election, and be somewhat active at election. We must come to the legislature with some of the representatives of that body absolutely for us, instead of with a portion of the members merely lukewarm and the remainder definitely against us.

With that end in view I propose that another committee be formed. I dislike to multiply numbers and multiply machinery, yet I believe there is a need for this committee. I am not particular in regard to the name of this committee. It might be called the campaign committee. For certain reasons it might better go unnamed, and with the least publicity. I would make up a committee consisting of one man from Lincoln who is an active man in state politics, who is competent to meet men in a political way, and who will produce results in political and legislative matters. This man should be chairman of the committee in question. The remainder of the committee should be made up of representatives, one or more from every county. While the particular county represented should use its influence in selecting its representatives, yet the representation from each county should be finally decided by the chairman of the committee. In other words, I believe in making the chairman more or less autocratic, with the strong centralization and organization. The representatives from the different counties should not necessarily be secretaries of the county societies. The personality of the secretary of the county society and the personality of the campaign representative are altogether different. The same men cannot fill both places.

Through this committee some influence could be brought to bear upon the men elected in the several counties, and after they are elected some influence could then be brought to bear upon them as regards their attitude toward medical or any other form of legislation. Of course, we would not be able to work miracles in the first year or two, but there is no question that if the organization were maintained we could accomplish a great deal more after a few years than we are accomplishing now. I do not mean to carry the idea that the demands for medical legislation in this state are so great; however, I do wish to emphasize the weakness of our efforts when we try to meet these legislative matters. I am asking this body to do very little in planning additional work; however, I am very solicitous that they make this committee possible, and that said action should be taken at this session.

This body should begin to lend its efforts to the movement for nationalizing the rules and laws pertaining to the requirements of the Medical Practice Act. The rules governing the credentials and qualifications of the individual who is permitted to practice medicine should not be left entirely to the state in which he is admitted. These rules and regulations should bear a certain uniformity in all states. The requirements for admission in each state should be more or less in harmony with a general standard. The fees for examination and for reciprocity should approach a common figure. For example, a graduate from a Nebraska school is required to pay $10.00 to come before the Board of Medical Examiners for examination. A man graduating outside of the state is required to pay $25.00 for the same privilege. In the State of California the charge in either case is $50.00. An applicant gaining admission to the State of Nebraska by reciprocity is required to pay $25.00; in the State of California he is required to pay $100.00. Another example of the difficulties arising from lack of uniformity and central national organization is that of an applicant who, because of his credentials, is not permitted to come before the Nebraska Board for examination. He goes before the Arkansas board, is examined and admitted. Later on he endeavors to gain entrance into Nebraska (his objective point from the beginning) by means of reciprocity. In general Nebraska reciprocates with Arkansas. Of course, the Board can deny admission by reciprocity in this case by reason of his educational credentials, but the very fact that such conditions are possible is decidedly puerile.

To repeat, there should be more uniformity as regards the requirements in all states. In other words, the requirements should be more or less nationalized. The delegate to the National Convention from this state should be instructed year after year to further this movement for more uniformity, more organization, more nationalization in the requirements for practice in all the states.

Lastly, it is my firm opinion that Nebraska should be one of the first states to adopt the new law regarding the registration. I refer to the annual registration of physicians. By annual registration is meant simply that every physician practicing in Nebraska should register every year, and at the time he registers pay a fee of two dollars. In other words, all the physician would be required to do would be to fill out a blank and send it with a check for $2.00 to the Board of Medical Examiners. This law has been in force for something over a year in the State of Illinois. Our neighboring state, Colorado, passed such a law last November. Following are some of the reasons why such a law should be passed; some of these reasons being gleaned from the experience of the Illinois Board:

First, it enables the Board of Examiners—in other words, the state authorities—to keep in touch with all the legally qualified men and women in active practice. At the present time an applicant comes before the Board, fulfills all the requirements, and is given a license. He leaves the office of the Board and is never heard of again. He may go out and practice in the state, or he may take his credentials from the State of Nebraska and gain licensure by reciprocity with some other state. The Board indeed has a record of the attempt at reciprocity, but the Board does not know whether the other state has granted reciprocity; or, if granted, does not know whether or not the applicant ever makes use of it. Should he be required to register each year, his presence in the state would be drawn to the attention of the Board annually.

Second, annual registration would be a great aid in keeping a correct roster in the hands of the Board of Medical Examiners in each state. Such a Board has no definite record of all the physicians in active practice in the state. In our state, if we wish to know the location of a physician whom we think might be practicing in Nebraska, we are dependent upon the A. M. A. records rather than our own. For example, the sheriff called the office of the secretary of the Board recently, stating that he had found a dead man some twenty miles from Lincoln; that on this man's person he had found a prescription bearing a physician's signature. The sheriff asked the secretary if such a man was practicing in Nebraska. The records at the secretary's office are not dependable; in fact, in this case the record furnished by the A. M. A. was consulted. The secretary of the Board is now unable to say whether or not such a physician is practicing in Nebraska. At present we have no reliable record of deaths, removals or withdrawals of the physicians within our state. It is distinctly to the advantage of the well qualified, legally licensed physician that a definite list of such physicians should be had. It is only by having an accurate list of the legally qualified practitioners that we are able to know those who are not legally qualified.

Third, the annual registration makes it much more feasible to recall physicians who are not practicing or living up to standard. Under our present methods it is even rather difficult to recall the license of a physician who is a dope fiend. He has once proven his moral character and has been granted a license. It is much more difficult to recall the old license than it would be to refuse a new permit each year.

Fourth, in a way it is an annual inspection. Every physician in the State of Nebraska would be brought to the attention of the Board at least once a year. Under the present method, a man who was licensed by the Nebraska Board twenty years ago, may apply for license by reciprocity with the State of California. The California requirements are more strict than those of Nebraska. The secretary has no personal knowledge of this applicant, and no record of his fitness or ability subsequent to the credentials filed in 1899. Yet he is called upon to make a sworn statement to the California Board, testifying to the moral and professional ability of this candidate to enter the State of California and carry on a practice creditable both to that state and to the state granting his original license.

Fifth, the annual registration fee of $2.00 would give the Medical Examining Board some money with which to carry on its work. There is a real need for this money. The state gives the Board no money whatsoever for the discharge of its duties. The members of the Board should be paid, and there should be some funds to enforce the laws and to bring pressure to bear upon practitioners who are not living up to the provisions of the Medical Practice Act.

Sixth, the annual registration of physicians would be in accordance with the good results obtained by annual registration among other professions.

It is not necessary for this body to take any action upon the subject of annual registration at this time; however, I take this means of bringing it before the physicians of Nebraska. I hope they will give it due and thoughtful consideration. It is my sincere hope that a bill pertaining to this subject will be introduced at the next session of the legislature.

The time is not long before the meeting of the Constitutional Convention. The physicians of Nebraska should by all means be represented at that convention.

OPENING EXERCISES.

The Fifty-first Annual Convention of the Nebraska State Medical Association met in the Lincoln Hotel, Lincoln, Nebraska, Tuesday, May 20, and was called to order by the President, Col. J. M. Banister, of Omaha, at 9:00 a. m. President Banister called on Rev. J. H. Holms, of Lincoln, who pronounced the

Invocation

"O, Eternal God, our Father, we come into Thy presence in a spirit of reverence and in a spirit of love. We come praising Thee for the science of medicine, which Thou hast led forward through the centuries, and in which Thou art making such wonderful revelations; for the labors of such men as are here today; for their sacrifices; for their heroism, and sometimes for their martyrdom. We, who represent those for whom they labor and suffer would always give them praise, and would praise Thee because Thou dost give them their knowledge, and Thou dost give them their strength.

"O, God, we ask that mighty benefits rest upon the heads of all these who are Thy ministers of healing. Grant in all their labors and investigations they may have Thy blessing constantly with them, and have some realization of the high partnership with Thee in which they may pursue their noble profession.

"We pray for Thy blessing upon them that they may be delivered in large measure from the temptations incident not only to their lives as men, but to their lives also as professional men. Save them from all danger of becoming servants for hire, and help them to realize they have been indeed ordained from Heaven for a ministry to human beings in the preservation of their health, and in the stoppage of the ravages of disease.

"We pray, our Heavenly Father, that these men may be delivered from all carelessness and all unprogressiveness: that they may at all times strive to know what is Thy will along all lines, and strive to secure accurate knowledge of the laws of disease and health.

"We pray Thee they may increasingly become not only healers of mankind, but powers in their respective communities and in the state, to the end they may be knights of a real chivalry in their great fight against the scourges of the human race.

"Bless and keep them all, and help them to realize the gratitude of the people for the work they are doing so well, and increasingly better; and help them to strive every day to press forward to better things for men.

"We ask Thy blessing upon the members of this convention of the Nebraska State Medical Association. Grant that their hopes of receiving benefits from this fellowship and exchange of information may be fulfilled in large measure, to the end they may do an increasingly good work.

"Bless them and keep them—their Presiding Officer, these committees, and all who shall take part in the program.

"We ask it in the name of our Saviour.

"Amen."

President Banister: The address of Welcome was to have been delivered by Governor McKelvie, but having been called to Chicago, Mr. E. B. Sawyer, representing the Commercial Club of this city, has kindly consented to welcome the visiting physicians. (Applause.)

Address of Welcome.

Mr. E. B. Sawyer, Lincoln.

Mr. Chairman and Doctors: Most anyone should be pleased to come up here this glorious sunshiny morning to address a representative body of men of this sort. However, I may say it is a little bit out of my line as a manufacturer, and the Address of Welcome will be without the Address. Nevertheless, it will be a Welcome. If Governor McKelvie had been able to be present, you would certainly have had a real address and some oratory. We recognize Governor McKelvie as one of our most progressive Commercial Club men and citizens of Lincoln. However, Lincoln is not confined entirely to oratory or educational work; but we have doctors and professional men and manufacturers and real city and home builders.

On behalf of the city of Lincoln and Mayor Miller, who is now convalescing under some tender Doctor's skillful care, and the Commercial Club, I certainly want to welcome you all here.

Personally, I do not have a great deal of use for the doctors. One of my partners is a Christian Scientist, and my wife has one of these "Rub-some-more" doctors; but I just take Daddy Flynn's health exercises and get along very well. However, I know the greater share of the population of this country need doctors, and good doctors, and I thank the State of Nebraska in having the class and calibre of doctors we have in this city and this State.

I sometimes feel that I am a very busy man, but when I look around and see the doctors who go early and late, day and night, Sundays and all, I feel ashamed of myself to say I am busy at all; because I think the doctor's service is a wonderful service. In the manufacturing business, I have always thought a doctor's service was a good deal like gasoline engine expert service. We have to send out to get men to take care of engine trouble. Something is the matter with the internal organs of the engine—the piston or connecting rod is weak and thumps a little bit. That is a minor trouble. The expert can adjust this and that and get it to going in pretty good shape again. But the other half of his work is fixing the man who owns the engine. And that man knows if the engine didn't give him power and gave a little trouble yesterday, he is suspicious as to whether it will ever do the work right again. So the expert has to fix up the man as well as the engine.

I presume the doctor has to use a little bit of that in applying his practice—fixing a man's lungs and heart and his different difficulties. He also has to get it clear in his mind he is benefitting him. So the professional service of the doctor is applicable in lines of manufacturing work, and vice versa.

In regard to our beautiful little city here, we want you to know in addition to its being the greatest educational center in the state, it is the greatest educational center of the west. With our universities and colleges in and around Lincoln, we are wonderfully well located for the educational requirements as well as the other requisites of a beautiful home city. We hope that you may be with us long enough to get better acquainted with Lincoln and the people who live here.

We have the largest, most progressive and best woman's club in the entire country. It has something like thirteen hundred members.

The Lincoln Commercial Club is one of the best and most progressive, in proportion to population, of any city in the country. We have some sixteen hundred members. Our metropolis at Omaha only has a few more than we have in Lincoln.

Lincoln is a city of clubs. The civic work and the general attitude of the business and professional men of Lincoln is for community building, and cooperation with different clubs and different civic organizations. I think if you are here just a few days you will appreciate Lincoln's advanced position in regard to community building and benefit.

I am especially glad to welcome you here and ask you to feel at liberty to drop in to the Commercial Club.

I think one of the big things for professional men to consider—and it applies to the manufacturers—is to try not to get into a rut, which we are likely to do if we consider only our own line of business and our own thought. The doctors can well afford to come and mingle with the business men and manufacturers, and they in turn need to mingle with the professional men. The contact of the one type of man with the other is what helps to make a balanced community. It is what makes the success of commercial clubs. The doctors are busy in their line and the business men and manufacturers in theirs, and only by contact of the different types can we have a well balanced community. I feel the doctors in their daily work are more liable to keep out of a rut than the business men; to look from their professional duties and see the opportunities around them and the benefits they will derive from coming in contact with the fellows across the way.

I hope you will be here long enough to get around into our city and suburbs and see the progress Lincoln is making. In another year or two we will have our new five-million-dollar capitol. I say "ours". It is ours in the broader sense of belonging to the State. Lincoln is proud to have the opportunity of having this capitol here, and we want you to take the same pride in it we will. It is for the benefit of the State at large, and we as custodians are especially pleased to be honored with it in Lincoln.

There is nothing further I wish to add, except to suggest that you are a little bit careful of what you do in an automobile here. Even the President of the Commercial Club gets pinched if he steps on the throttle. Aside from that, you are welcome to everything we have; and in these good days of prohibition, we do not even have to hand over any keys. Everything is unlocked, and you will find the cleanest, most beautiful, progressive and healthiest little city in any state, and we want you to get acquainted with us and come often.

I thank you. (Applause).

President Banister: An Address of Welcome will now be tendered us by Dr. Bailey. (Applause).

Address of Welcome.

B. F. Bailey, M. D., Normal, Neb.

Mr. President and Members of the Nebraska State Medical Association: It is certainly a privilege that has been laid upon me by the Lancaster Medical Society.

I was glad to sit and listen to Mr. Sawyer. He reminded me of one of his gasoline engines which makes very little noise, but it gets there just the same. I am glad he can enjoy an occasional rub; that he is still capable of being made happy by the emotional drunk of the mind of the Scientist; but he says his own little organ gets loose and has functional troubles, and we will surely get him some day!

The medical profession in years gone by was really the butt of the joke of the legal profession and the world at large. We seemed to be looked upon as a cheerful lot of cranks, who did our best to "do" the rest. After all, the time never was when we were not a sacrificing body of men. I believe the judgment was never rested upon us because in those days we did not understand each other. We had the reputation of being jealous. But the times have changed, and the time has come when the medical profession of America and the world can unite in one great work—the desire to see how much they can do in the battle against disease and misfortune.

Two years ago when we met we had heard the sound of the battle cry and the call to face the greatest war of the world. At that meeting our Neighbor who had done so well and nobly abroad was bidding goodbye to his friends and getting ready to leave us for the other side. Last year we were almost lonely in Omaha because so many were gone. Today we are happy because they are coming back and the death rate has been so small. On the other hand, our people were ready to leave their all for the ideal of the world. They recognized the young men of our country were going out as the Master went out, "to die to make men holy"; they were going "to die to make men free." They went regardless of sacrifice, that nothing might be left undone to save and bring back as best we could the young men of our country.

They told us the Americans were dreamers, but the medical profession has made those dreams come true.

You and I know what it meant in the old days when the silent foe killed the great majority of the people. In the Japanese-Russian war for the first time the silent foe killed the lesser number of people.

During all this time I believe our profession in Nebraska has been harmonious and united, doing its best to back those brothers who had gone to the front, and to care for the work left for them to do. So the members of our Lancaster County Medical Society have found harmony and fellowship—a desire to help each other and a disregard of anything but each other's good.

So as we come together today, you who come from out in the state that has brought to us our capitol, that brings us prosperity, and that has made of Omaha a great commercial city, with pride we welcome you, and are glad to have you with us.

In doing this there comes to me a pleasure greater than ordinary. There have been men among us who have stood for much. There have been men who have borne more than the ordinary, and the man who has borne the most has always been the bravest, the quietest, the kindest. I know a man who has given to his people, to his State, to his Country, practically all of his male kin. I know a man who bravely, calmly, beautifully has bowed his head in grief, while we, too, have bowed our heads in sympathy; who in that strength and calmness and wise advice for the rest of us who served has been a bulwark of strength, not only to his kin and to his State, but to his Country.

So in welcoming you to the city and extending the freedom of all the medical profession can give you, it is a thousand times greater pleasure today because I can welcome as your leader such a man as I have described—Colonel Banister. (Applause).

And that I may not detain you longer, I can only say I would ask you to remember the toast which I offer to the medical profession:

The Founders of Health, the Pioneers of Progress, the Defenders of the People: May they ever work together for the world's welfare.

And to you I say:

Come in the evening,
Come in the morning;
Come when expected,
Come without warning,

and you will always find a thousand welcomes before you.

I thank you. (Applause).

President Banister: Dr. James M. Patton, of

Omaha, was to have responded on the part of the visiting physicians. I am sorry he is not present.

The meeting will stand adjourned until ten o'clock, when our scientific program will commence.

HOUSE OF DELEGATES

First Session.

The first session of the House of Delegates met in the Garden Room of the Lincoln Hotel, Monday evening, May 19, and was called to order by Pres. J. M. Banister, who stated the first item on the program was the reading the minutes of the 1918 convention.

It was moved by Sec. J. M. Aikin that inasmuch as the minutes had been approved from session to session and printed, their reading at this time be dispensed with.

The motion was seconded and carried.

Sec. Aikin read the roll of the certified Delegates, as reported to his office to date.

The roll showed there were 29 members present.

Pres. J. M. Banister declared this number constituted a quorum and suggested that the House proceed to the election of a President pro tem.

Dr. Irving S. Cutter was nominated, and upon motion, duly seconded and carried, was declared unanimously elected President pro tem.

The following reports for 1918 were then made and referred to the Board of Councilors:

The report of the Secretary was read by Dr. Aikin.

The report of the Treasurer was read by Dr. A. S. v Mansfelde.

The report of the Corresponding Secretary and Librarian was read by Dr. Aikin in the absence of Dr. W. P. Wherry.

The report of the Board of Councilors was made verbally by Dr. A. P. Overgaard, as follows: "I wish to state your Board of Councilors met according to terms in the new Constitution and By-Laws organized in January, 1919, elected a President and Secretary, and passed upon the Secretary and Treasurer's report. All those transactions were published in our Journal a month or two ago, we have no other report at present."

Under the head of standing committees, the report of the Program Committee was called for by Pres. Banister. This was read by Sec. Aikin.

In the absence of Dr. C. L. Mullins, Chairman of the Committee on Public Policy and Medical Legislation, it was suggested by A. S. v Mansfelde that the report which Dr. Mullins had sent in be laid over and be read at the subsequent meeting of the House of Delegates. This was so ordered by the Chair.

The report of the Committee on Journal and Publication was read by Dr. F. A. Long, of Madison.

In the absence of the Chairman of the Committee on Care and Prevention of Contagious Disease her report was read by Sec. Aikin.

The report of the Committee on Medico-Legal Defense was read by Dr. Mansfelde.

Under the heading of the Council on Medical Education, Sec. Aikin read a communication from Dr. Dunn.

Reports of Special Committees were then considered, the first being a Committee on Arrangements. Dr. H. J. Lehnhoff stated that he had no report to make.

The report of the Committee on Memorials and Communications was read by Dr. A. P. Overgaard, who moved that a page in the Journal be set aside for this report.

The motion was seconded and carried.

Under "New Business" Dr. Long stated it had been customary for a number of years when a county was not represented by a delegate, to select someone present at the meeting to take his place; but this procedure was declared by the chair as unconstitutional.

Dr. A. S. v Mansfelde called the attention of the members to the following paragraph from Chapter 10 of the Constitution: "The Chairman of the Committee shall receive a salary of $25.00 per month, and $200.00 annually, or as much as may be necessary for office and traveling expenses. Members of the Committee except the Chairman and any member of the profession serving as witness, shall receive $10.00 per day for traveling expenses for all time used in Defense service."

Dr. v Mansfelde then made the motion, the words "Except the Chairman" be cut out, as they are not part of the new Constitution.

The motion was seconded and discussed at length, but did not carry.

Dr. Cutter then moved that inasmuch as the Constitution was undoubtedly inaccurately compiled in this respect, it be corrected to read in accordance with the minutes of the meeting of 1916.

This motion was seconded and carried.

Dr. R. W. Fouts asked what a county would do in the event that neither the delegate or alternate appear. The president then said that according to the Constitution and By-Laws nothing could be done. Dr. E. C. Stevenson stated that in the blanks sent out there is a proviso for the delegate who cannot attend to designate his alternate in his stead. He said if a county wants representation the members should see to it that they have it.

Dr. M. A. Quincy said: "I would like to suggest a way out of this trouble. If in the county societies where you have to take a crowbar and all that pharaphernalia to get the members to attend the county society meetings and elect their delegates and alternates so that they may be represented in this House of Delegates, if you have a woman physician in the county, be sure she is the Secretary and let her find the way."

This suggestion was greeted by applause.

Dr. Nielson's suggestion that we hang Dr. Fouts was greeted by laughter.

Dr. Banister announced the election of the Committee on Nominations was in order and on request the Secretary read the Section pertaining thereto:

The following nominations were then made:

Dist. No.	Name	Town
1.	E. C. Henry	Omaha
2.	R. B. Adams	Lincoln
3.		
4.	F. A. Long	Madison
5.	Morris Nielsen	Blair
6.	C. L. Lemar	Osceola
7.	Porter F. Dodson	Wilbur
8.		
9.	E. C. Stevenson	Gothenburg
10.	W. A. Schreck	Bertrand
11.		
12.	C. R. Watson	Mitchell

These nominees were then duly elected by the House.

After some announcements by Dr. R. B. Adams, Secretary Aikin and the President, the meeting was declared adjourned.

Joseph M. Aikin, Sec'y-Treas.

HOUSE OF DELEGATES

Second Session.

The second session of the House of Delegates met in the Garden Room, Lincoln Hotel, on Tuesday morning and was called to order by Dr. I. S. Cutter at 8 o'clock.

Seventeen members responded to roll call.

The minutes of the previous meeting were read by Dr. J. M. Aikin, and with a slight correction were approved.

Dr. H. J. Lehnhoff, Chairman of the Council, read his address.

The first item under unfinished business was the reading of the report of the Sub-Committee of the Committee on Public Policy and Legislation, by Dr. Aikin. The report was referred to the Council.

The report from the Board of Councilors was read by Dr. A. P. Overgaard. Upon motion, duly seconded and carried, it was adopted.

Under new business, the following resolution was presented by Dr. A. S. v Mansfelde: "Resolved by the Saunders County Medical Society that we bring to the notice of the House of Delegates of the Nebraska State Medical Association the fact that from the first of January this year physicians have to pay three dollars to the Commissioner of Revenue for the right of giving narcotic drugs, which was before this one dollar; that we very much resent that kind of an undertaking. We are handicapped in the first place and then asked to pay a premium on top to take care of the unfortunate sick of the country. We should not be burdened with that kind of an outlay. We are speaking of the whole profession of the country. You know what it will mean in the way of money."

Dr. v Mansfelde moved the adoption of this resolution which was seconded but after an animated discussion, the resolution was lost.

The following resolution was introduced by Dr. A. D. Nesbit: "Whereas, it is of prime importance that the Committee on Medico-Legal Defense have sufficient means to direct sudden demands upon them it is hereby ordered that the Secretary-Treasurer honor the drafts of the Chairman of said Committee issued for this purpose."

The resolution was seconded and carried.

Dr. Lehnhoff introduced the following resolution: "I move you the House of Delegates create a standing Committee known as the Campaign Committee consisting of a Chairman appointed by the House of Delegates and one or more representatives from each county—these representatives to be chosen by the county in conjunction with the Chairman of the Committee, the Chairman having final voice—the Committee to be elected every second year." Chairman Cutter said if there was no objection the Chair would rule the House accepts the resolution and requests Dr. Lehnhoff to prepare typewritten copies and distribute them among the membership of the House during the day that they may have a chance to think it over and prepare amendments.

Chairman Cutter then declared the meeting adjourned.

Joseph M. Aikin, Sec'y-Treas.

HOUSE OF DELEGATES

Third Session.

The third meeting of the House of Delegates was called to order in the Garden Room of the Lincoln Hotel, Lincoln, Nebraska, at 8:00 a. m., May 21, 1919, by President J. M. Banister.

Twenty-seven delegates were present.

President Banister requested President pro tem Cutter to take the Chair.

Secretary Aikin read the minutes of the last meeting, which, after a minor correction, stood approved.

Secretary Long of the Nominating Committee gave his report as follows:

For President—H. W. Orr, Lincoln; A. J. Stewart, Mitchell; S. F. Sanders, Holdrege.

For Vice President—G. H. Brash, Beatrice; Adolph Sachs, Omaha.

Councilors—5th District, Morris Nielsen, Blair; 6th District, F. Tornholm, Wahoo; 7th District, H. E. Potter, Fairbury; 8th District, (no one present from that district).

Delegate to American Medical Association—LeRoy Crummer, Omaha; alternate, E. C. Henry, Omaha.

Member of Committee on Journal and Publication—W. O. Bridges, Omaha.

The election of the President was by secret ballot. H. W. Orr was elected president receiving 24 votes out of the 32 cast. S. F. Sanders received 3 and A. J. Stewart 5.

As there was only one man nominated for each of the other offices, Dr. Overgaard moved that the Secretary be instructed to cast the vote of the House unanimously electing the following:

For Vice Presidents—G. H. Brash and Adolph Sachs.

For Councilors of the 5th, 6th and 7th Districts, Morris Nielsen, F. Tornholm and H. E. Potter respectively, and as there was no one registered from the 8th District, it was referred to the President to appoint one when the present councilor's term expired.

Delegate to the American Medical Association, LeRoy Crummer, and Alternate E. C. Henry.

Member of Committee on Journal and Publication, W. O. Bridges.

Member of Committee on Medico-Legal Defense, J. S. Welch. (Appointed by the President).

Dr. H. J. Lehnhoff moved that the following amendment be made in the Constitution and By-Laws of the Nebraska State Medical Association: "(1) That under Chapter VIII pertaining to Committees, Section 1, a new Committee be added, namely, a committee on campaign. (2) That another section, namely, Section 8, be added to Chapter VIII to define organization of that Committee as follows:

Section 8. The Committee on Campaign shall consist of a Chairman elected by the House of Delegates and one or more representatives from each county, such representative to be selected by the respective counties acting in conjunction with the chairman of the committee; such chairman to have the final work in the selection of men who are to represent the respective counties at the state legislature, and shall use due and legitimate influence with such legislators in passing upon medical and other general legislation."

The above motion was seconded, and as the chair was uncertain, it was put to a vote and carried, seventeen voting for it and thirteen against it.

Dr. Roeder moved that the above amendment be made to read "The members of this Committee shall hold office for four years" instead of "two years." This motion was seconded and carried.

Dr. Lehnhoff moved that Dr. K. S. J. Hohlen be chosen Chairman of the new Committee known as the Campaign Committee. The motion was seconded and carried.

Dr. Overgaard then read the minutes of the last Board of Councilor meeting. It was moved and seconded that they be adopted. Carried.

Under New Business, Dr. J. P. Lord made a motion that a Committee be appointed by the Chairman to study the subject of State Medicine. This Committee to report to and cooperate with the Representative of the State Constitutional Convention. This Committee will also report the results of its labors to this Association next year. This was seconded and carried.

Dr. Frank Conlin presented the following resolution: "Resolved it would be the sense of the House of Delegates of the Nebraska State Medical Association that they are in favor of the appointment of men specially trained in public health matters as health commissioners in various cities and counties throughout the state and recommend such appointment to the Commissioners." Dr. Roeder moved that "The city and county health officer to be one and the same man" be added to Dr. Conlin's resolution. Seconded and carried. It was moved and seconded that the above resolution as amended be accepted. Carried.

Dr. F. A. Long moved that our 1920 meeting be held in Omaha during the month of May. The motion was seconded and carried.

Dr. Stark moved that the plan initiated by the Program Committee of convening the House of Delegates the evening before the day the Scientific session started their program, be continued. The motion was seconded and carried.

Adjourned.

Joseph M. Aikin, Sec'y-Treas.

HOUSE OF DELEGATES ROLL CALL.

"1" present; no mark, absent.

	MEETINGS		
	1	2	3
Adams			
Fred Schaufleberger			
Boyd			
H. A. Skelton			
E. R. Seasongood			
Box Butte			
C. E. Hirshman			
Boone			
Buffalo			
Burt			
M. L. Hildreth	1		
I. Lukens			
Butler			
C. B. Coleman			
L. M. Asbury			
Cass			
F. W. Kruse	1	1	
N. D. Talcott			
Cedar (14), Wayne (3), Thurston (3), Dakota (0), Dixon (?)			
L. Stark		1	1
F. B. Dewey			
Chase (3), Dundy (3), Hitchcock (5), Hayes (1)			
A. B. Fellers			1
Cheyenne			
Clay			
H. H. Seely			
Cuming			
T. D. Thompson			
Custer			
G. I. Sellon			
Dawes			
Dawson			
E. C. Stevenson	1	1	1
Dixon			
R. C. Richards			
E. J. Fleetwood			
Dodge			
Andrew Harvey	1	1	1
W. Davies			
Fillmore			
Franklin			
N. T. Johnson			1
Furnas			
Gage			
H. G. Schooling			1
Hall			
W. J. Raynor			
Hamilton			
Harlan			
J. O. Hoffman			
Holt			
Howard			
A. H. Holm	1	1	1
F. S. Nicholson			
Jefferson			
H. H. Humphrey			
Johnson			
J. M. Curtis			
C. D. Barnes			
Kearney			
Kimball			
Knox			
E. G. Peters			
E. V. Neuman			
Lancaster			
E. S. Wenger	1		1
R. B. Adams	1		1
Lincoln			
Madison			
G. E. Charlton	1		
Omaha-Douglas			
R. A. Dodge			
W. Y. Thompson			
I. S. Cutter	1	1	1
W. H. Pruner			
C. T. Uren	1	1	1
P. H. Ellis			
E. C. Henry	1	1	
C. W. Pollard			
C. A. Roeder	1		1
B. W. Christie			
Frank Conlin	1		1
James Goetz			
Merrick			
Nance			
Homer Davis			
Nemaha			
B. F. Lorance			
B. A. Smith			

	MEETINGS 1	2	3
Nuckolls			
Otoe			
W. S. Wilson			
Pawnee			
E. L. McCrea			
W. K. Boyer			
Phelps			
W. D. Shields			
J. L. Magill			
Pierce			
Frank G. Salter			
Platte			
B. Tiesing			
A. G. Lueschen			
Polk			
C. L. Lemar	1		
Red Willow			
Richardson			
S. D. Cowan			
Saline			
Porter F. Dodson	1	1	1
Saunders			
M. A. Quincy	1		
Scottsbluff			
C. R. Watson			1
Seward			
Sherman			
Thayer			
H. H. Stretton			
Valley			
Washington			
Morris Nielson	1	1	1
Webster			
York			
Officers of the Nebraska State Medical Association.			
President, J. M. Banister	1		1
Vice President, A. I. MacKinnon			
Vice President, F. W. Buckley			
Sec.-Treas., Joseph M. Aikin	1	1	1
Ass't. Secretary, R. A. Dodge			
Cor. Sec. and Lib., W. P. Wherry			
Councilors.			
1st District, A. P. Overgaard	1	1	1
2nd District, H. J. Lehnhoff	1	1	1
3rd District, R. W. Fouts	1	1	1
4th District, A. E. Cook	1		
5th District, R. C. Byers	1	1	
6th District, O. E. Weber (F. Tornholm, ad interim)	1	1	
7th District, H. E. Potter	1		1
8th District, J. P. Gilligan			
9th District, M. S. Moore (G. I. Sellon, ad interim)			
10th District, S. F. Sanders	1		1
11th District, H. E. Mantor			
12th District, A. J. Stewart	1		
Ex-Presidents.			
Charles Inches			
M. L. Hildreth			1
A. S. Von Mansfelde	1	1	
H. B. Lowry			
J. E. Summers			
F. D. Haldeman			
Wilson O. Bridges			
A. R. Mitchell	1		1
Robert McConaughy			1
H. M. McClanahan			
Wm. B. Eby			
A. B. Anderson			
A. F. Jonas			
F. A. Long	1	1	1
Harold Gifford			
L. M. Shaw	1		
P. H. Salter			1
J. P. Lord			1
A. D. Nesbit	1	1	
I. N. Pickett			
D. C. Bryant			
J. P. Gilligan			
E. W. Rowe			
W. F. Milroy			
C. L. Mullins			

BOARD OF COUNCILORS MEETING.

The Board of Councilors met at 10:00 p. m. Monday evening, the 19th of May, in the Lincoln Hotel.

They were called to order by Chairman H. J. Lehnhoff.

Drs. H. J. Lehnhoff, Frank Tornholm, R. W. Fouts, S. F. Sanders, R. C. Byers, H. E. Potter, A. J. Stewart, A. E. Cook and A. P. Overgaard were present.

Minutes of the last meeting were read by Secretary Overgaard and stood approved as read.

The public accountant's report on the auditing of all the State Association books was read by Secretary Overgaard. It was moved that the report be accepted as it stands, and recommended to the House of Delegates for approval. Motion seconded by Dr. Potter carried.

Dr. Overgaard moved that we recommend to the House of Delegates that our officers endorse and fill out the proper blanks to adopt the metric system of weights and measures. Seconded by Dr. Byers. Carried.

Dr. Cook moved that we recommend all the following reports to the House of Delegates for Adoption, and that they be published in the official Journal, and placed on file. Report of Corresponding Secretary and Librarian; Report of Program Committee; Report of Committee on Journal and Publication; Report of Committee on Public Health Education from May to Dec. 31, 1918; Report of the Committee on Medico Legal Defense. The motion was seconded by Dr. Tornholm. Carried.

Dr. Stewart moved that the Preliminary Report of Committee on Care and Prevention of Contagious Diseases be referred back to the Committee for completion of their 1919 report. Dr. Potter seconded the motion. Carried.

The meeting adjourned.

A. P. Overgaard,
Secretary of the Council.

BOARD OF COUNCILORS.

SECOND SESSION.

The Council met at 9:00 a. m. Tuesday, the 20th, immediately following the second meeting of the House of Delegates, and was called to order by Chairman Lehnhoff.

The following members were present: H. J. Lehnhoff, F. Tornholm, R. W. Fouts, R. C. Byers, A. E. Cook, S. F. Sanders, A. J. Stewart, H. E. Potter and A. P. Overgaard.

It was moved by Dr. Fouts that the report of the sub-committee of the Committee on Public Policy and Medical Legislation be accepted and recommended to the House of Delegates for approval and publication in our official Journal. The motion was seconded by Dr. Cook. Carried.

Dr. Fouts moved that the thanks of the Nebraska State Medical Association be extended to Drs. Hohlen and Bailey, members of the Sub-Committee, on Public Policy and Medical Legislation, for their efforts during the session of the last legislature. Motion seconded by Dr. Tornholm. Carried.

It was moved by Dr. Sanders that we recommend that the Chairman of the Committee on Medico Legal Defense be authorized to make sight draft on the Secretary-Treasurer for any emergency expenses in executing his work. Seconded by Dr. Byers. Carried.

Dr. Fouts moved that the following resolution be accepted by the Council and referred to the House for adoption: In view of the fact that present medical fees have not advanced in keeping with other prices during the past few years, and that examination fees paid by some life insurance companies are not commensurate for the examination required: Resolved, that we, the members of the Nebraska State Medical Association, take this opportunity of indicating to the various life insurance companies operating in this State, the sentiment of the medical profession relative to fees for examination. 1. A fee of less than five dollars for an examination as required by life insurance companies, if done by an honest conscientious physician is inadequate. 2. Believing that if a minimum fee of five dollars be adopted, better service and cooperation will be obtained. Be it resolved that a copy of this resolution be printed in the newspapers of the state, and a copy of the resolution be mailed to all life insurance companies, operating in the state. Dr. Byers seconded the above motion. Carried.

It was moved by Dr. Byers that the budget for 1919 be made up as follows and that it be submitted to the House of Delegates with the recommendation for its adoption:

State Medical Journal, per member	$ 1.50
Campaign Committee	200.00
Secretary-Treasurer's office expense	450.00
Salary of Secretary-Treasurer	350.00
Librarian's Expense	25.00
Salary of Chairman of Medico-Legal Defense	300.00
Expenses of Chairman of Medico-Legal Defense	200.00
Official Stenographer for 1919 Session	100.00
1918 Expenses of the Board of Councilors	163.24
	$1,789.74

The motion was seconded by Dr. Tornholm. Carried.

Dr. Overgaard moved that we recommend to the House of Delegates that a unanimous vote of thanks be extended to the Lancaster County Medical Society for the splendid entertainment given the Association at its annual meeting. Motion seconded by Dr. Fouts. Carried.

Adjourned.

A. P. Overgaard,
Secretary of the Council.

REPORT BY COUNCILOR DISTRICTS FOR 1918.

District	Members	Non-members
1	273	not stated
2	111	not stated
3	no report	
4	87	31
5	90	19
6	42	15
7	84	32
8	no report	
9	84	19
10	19	4
11	no report	
12	20	11
	810	131

A. P. Overgaard,
Secretary of the Council.

1919 PROGRAM COMMITTEE REPORT.

Your Program Committee was prevented by imperative professional duties, absence from the state of two members doing government service, and sickness in two other members, from holding a full Committee meeting. With the help of our President we arranged by correspondence with other members whose advice we prized, our decision, which was, first, we will dispense with sectional meetings; second, our general sessions shall in so far as possible represent every department of medicine; third, we will give preference to those best qualified to intelligently and concisely present the theme they choose or are asked to present. In arranging for the printer the material offered we encountered delays because some who had requested a place on our program, waived their privilege in favor of overseas men who arrived home later than was anticipated. Printing our roster in the program, was specifically for obtaining cooperation by the members in correcting our mailing list. The almost constant changes in location of medical men incident to government requirements, made it next to impossible to maintain a truthful enrollment. Fifteen days prior to this meeting programs were mailed to every doctor whose name was on our 1918 roster, plus all new names added in 1919. The small number of physicians enjoying a large country practice, who allowed their names to appear on our Program is regrettable, but not chargeable to favoritism on the part of your Committee. Notice was publicly extended in the November and December, 1918, issues of our official Journal inviting any member of our State Association, who so desired, to request a place on our scientific program.

Respectfully submitted,
Joseph M. Aikin,
Chairman Program Com.
J. S. Welch,
Chairman Surgical Section.
B. W. Christie,
Chairman Medical Section.

To the President and House of Delegates of the Nebraska State Medical Association:

Gentlemen:

Early in the session of the Nebraska State Legislature the officers and the legislative committee held a meeting and appointed a sub-committee on Public Policy and Legislation. This committee immediately called a meeting in Lincoln of the officers of the State Association and of the Public Policy and Legislation committee and laid before this meeting the following Senate Files and House Rolls:

House Roll No. 188, providing for the control of venereal diseases and sponsored by the United States Public Health Service. It was voted by the conference we should favor this bill.

House Roll No. 107, a bill to endow the chiropractors with powers that we deem unfair under the preparatory training they receive. It was voted that this bill should be quashed.

House Roll No. 226, recognized christian science treatment. It was voted as fraught with danger and action against it was advised.

Senate File No. 89 empowered the osteopaths to practice surgery and under certain conditions to prescribe drugs. The conference voted it should be killed or properly amended.

Senate File No. 36 forbade the proper education of those under sixteen years of age concerning the dangers of venereal diseases and the plain facts about procreation and the sexual sphere, except by parents —who rarely do it. The conference voted, if passed, it would be an obstacle to the United States Public Health Service and that we ought, as servants of the people, to see that it be killed.

Senate File No. 119 provided for a standing for graduate nurses in keeping with the best in other states. The conference voted that with so large a proportion of our nurses in government service at sixty dollars a month and large expenses, it should be our bounden duty to sponsor our nurses in seeing to the safe passage of this bill.

After the adjournment of this conference the committee requested the Secretary of the State Association to send from his office, a letter from the Nebraska State Medical Association calling the attention of each member to these senate Files and House Rolls with our recommendation as to their attitude in the matter. There was a very general response and the Committee wishes to call special attention to the active and untiring work of Representatives Jennison and Birdsall. They were both influential in the House, judicial in their judgment and wise in their support of the request of the officers of the Association. We cannot express to the Association and its officers too emphatically our approval and commendation of the work of these, our fellows, in the membership of the House.

Your Committee employed an attorney, Mr. Fred Foster, of Lincoln, whose watchfulness, together with his influence as a well known and fairminded representative of the public was of vast service.

We append herewith the result of our effort in regard to each of the House Rolls and Senate Files which we have above mentioned. We believe that the result was as great as possible and that from a judicial and fair standpoint the results were logical and more than fairly satisfactory. We recognize, however, the handicap under which we labored in our very late appointment and the fact that all elections were over, all pledges had been made and everything formative was accomplished. We also recognize that the sum appropriated by the Nebraska State Medical Association for the use of the Committee on Public Policy and Legislation, viz: $200, was insufficient, though we have kept within this sum. We would recommend that the appropriation be at least 50% more, and second, that a committee be appointed as a central executive committee of Public Policy and Legislation, and that a greater committee be appointed of which the sub-committee be the executive body, having one member in each county seat in the state. We recommend that this executive committee look to their fellows in the county seats for regular and sufficiently frequent reports of political conditions and political outlooks in the various counties, that whenever your committees may be able to go to the work knowing that the legislature is made up at least to a moderately fair extent of men who have some conception of the medical profession, its education, its usefulness, and it unselfish devotion to the public.

Respectfully submitted,
Benj. F. Bailey, Chairman,
K. C. J. Hohlen,
E. T. Manning,
Sub-Committee on Public Policy and Legislation
of the Nebraska State Medical Assn.

May 3, 1919.

Dr. Benj. F. Bailey,
Chairman Legislative Committee,
Nebraska State Medical Association,
City.

Dear Doctor:

I hand you herewith a copy of the printed bill of Senate File No. 89, pertaining to Osteopaths together with a mimeographed copy of same as passed and signed by the Governor.

Also enclosed find typewritten copy of the matter contained in the Code Bill, otherwise known as Senate File No. 2, as it went to the Governor for signature.

In the event that the Code Bill goes to a referendum and carries, it will be the law. If it fails to carry, then Senate File No. 89 will be the law. I make this explanation because of any difference there might be in the two laws, which might not be apparent to one not a physician.

Respectfully submitted,
Fred C. Foster.

DIVISION 2.

Osteopathy and Osteopathic Physicians.

Section 1. No person shall practice osteopathy and surgery, or any of the branches thereof, in this state without having applied for and obtained from the department of public welfare a license so to do. Application therefor shall be in writing, and shall be accompanied by the examination fees hereinafter specified, and with proof that the applicant is of good moral character. Applications from candidates who desire to practice osteopathy and surgery shall be accompanied by proof that the applicant is a graduate of a school or college of osteopathy in good standing. When the application aforesaid has been inspected by the department of public welfare and found to comply with the foregoing provisions the department shall notify the applicant to appear before it for examination at the time and place mentioned in such notice. The examination shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner. The examination of those who desire to practice osteopathy and surgery shall embrace all topics and knowledge which is commonly and generally required of a candidate for a degree for Doctor or Diplomat of Osteopathy by reputable schools in good standing as hereinafter defined. All examinations provided for in this article shall be conducted under the rules and regulations prescribed by the department which shall provide for a fair and wholly impartial method of examination by a board of three examiners to be chosen by the department, who shall be reglarly licensed osteopathic physicians actually engaged in the practice of Osteopathy in the state of Nebraska, who have been so engaged at least five years immediately prior to their appointment. Examinations may be dispensed with in the discretion of said department in case of an Osteopathic physician duly authorized to practice osteopathy in any other state or the District of Columbia, equal to the standard maintained in this state, who presents a certificate or license issued by such state or district accompanied by a fee of twenty-five ($25.00) dollars.

A special permit may be granted by the department of public welfare to an applicant deemed by it to be eligible but such special permit shall not operate beyond the date of the next regular or special examination held for the examination of applicants.

Sec. 2. The department of public welfare may revoke a certificate for unprofessional conduct of the licensee.

Sec. 3. If upon investigation of the proof submitted to the department and after examination, where examination is required, as hereinbefore provided, the applicant shall be found entitled to practice, there shall be given to said applicant the certificate of said department under its seal, stating such fact, and it shall be the duty of the applicant, before practicing, to file such certificate or a copy thereof in the office of the county clerk of the county in which he or she intends to practice. Such certificate or copy shall be filed by the county clerk and by him recorded in the book kept for that purpose to be called the "Physicians Register" and for such service the county clerk shall receive from the applicant the same fees as allowed the register of deeds for the recording of conveyances. Said certificates shall confer upon the holder thereof the right to practice osteopathy in all its branches, but it shall not authorize the holder thereof to prescribe or use drugs in the treatment of disease except where the use thereof was taught in the school or college of osteopathy of which the applicant is a graduate, at the time of his attendance at such school and then only in those cases and in the manner in which the applicant has been taught to use the same. Nothing in this act shall be construed so as to authorize the administration, by any osteopath, of drugs excepting anaesthetics, antiseptics, antidotes for poisons and narcotics for temporary relief of suffering. Osteopathic physicians shall perform only such operations in surgery as was fully taught in the school or college of which the applicant is a graduate, at the time of his attendance.

Sec. 4. Every applicant making application for an examination and a certificate under the provisions of the article shall pay to the department the sum of $25.00. All such fees shall be equally divided among the examiners appointed under this act and making such examinations as full compensation for their services.

Sec. 5. Osteopathic physicians shall observe and be subject to all state and municipal regulations relative to reporting all births and deaths and all matters pertaining to the public health, the same as physicians of schools of medicine, and such reports shall be accepted by the officers of the department to which the same are made.

Sec. 6. Any person who shall falsely represent himself to be a qualified osteopath or shall practice or attempt to practice osteopathy or use the science or system of osteopathy in treating the diseases of the human body without having first complied with the provisions of this article and obtained a license to so practice, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined in any sum not less than twenty-five dollars nor more than one hundred dollars, or be confined in the county jail not less than three months nor more than six months. Any person, who, for the purpose of deceiving, shall use any form of letters resembling the word "Osteopath," shall be deemed guilty of a misdemeanor, and upon conviction be fined in any sum not less than twenty-five dollars nor more than one hundred dollars or be confined in the county jail no less than three months nor more than six months.

Sec. 7. The term school or college of osteopathy in good standing shall be defined as follows: A legally chartered osteopathic school or college requiring for admission to its course of study a preliminary education equal to the requirements for graduation of an accredited high school, and shall further require before granting the degree of diplomat or doctor of osteopathy, an actual attendance at such osteopathic school or college of at least thirty-two months or four terms of eight months each, its course of study to include the subjects and the minimum hours taught in each thereof as follows: Anatomy, five hundred forty hours; Chemistry, three hundred hours; Pathology, two hundred fifty hours; Toxicology, fifty hours; Pediatrics, one hundred hours; Histology, one hundred eighty hours; Physiology, three hundred hours; Hygiene and Dietetics, thirty-six hours; Practice, Therapeutics, General Diagnosis, and Technique, one thousand and fifty hours; Dermatology and Syphilis, forty-five hours; Orthopedic Surgery, forty-five hours; Gynecology, one hundred twenty-five hours; Embryology, seventy hours; Bacteriology, one hundred fifty hours; Comparative Therapeutics, seventy-five hours; Nervous and Mental diseases, one hundred fifty hours; Jurisprudence, Ethics and Economics, forty-five hours; Genito-Urinary diseases, forty-five hours; Eye, Ear, Nose and Throat, one hundred twenty hours. The number of hours herein prescribed for the study of any subject may be reduced not more than twenty per cent, but the total number of hours prescribed shall not be reduced. The foregoing requirements shall be published in each catalogue of such osteopathic school or college.

Sec. 8. Any candidate for license or certificate to practice osteopathy in this state may be permitted to submit himself for examination in those studies and subjects completed at the end of the second year of college training, and if such examination is satisfactory and discloses that the applicant has mastered the subjects covered by such examination he shall be given credit therefor on his final examination. The applicant, before taking such partial examination, shall pay to the department the sum of fifteen dollars, which shall be equally divided among the members of the board making such examination as full compensation for their services. The applicant upon final examination shall pay to the department an additional sum of fifteen dollars which shall be turned over to the board and divided among them as in the case of the other fees.

SENATE FILE NO. 89.

Introduced by Senator Peterson.

Title, A Bill.

For an Act to authorize and regulate the practice of Osteopathy in the State of Nebraska and to authorize the examination and licensing of Osteopaths or those who practice the profession or science of Osteopathy and for that purpose to authorize the Governor to appoint examiners to assist him in the execution of this Act, said examiners to constitute and be known as the State Board of Osteopathy, and to provide penalties for the violation of this Act and repeal Sections Nos. 2788, 2789, 2790, 2791, 2792, 2793 and 2794, of the Revised Statutes of Nebraska for 1913, and all Acts and parts of Acts in conflict therewith.

Be it Enacted by the People of the State of Nebraska:

Section 1. The Governor of the State is authorized and required to cause to be examined and licensed to practice all persons, who are residents of the state, following the profession of Osteopathy or desiring to follow the same and for that purpose he is authorized and required within thirty days after this Act shall take effect to appoint three examiners who shall be regularly licensed osteopathic physicians actually engaged in the practice of Osteopathy in the State of Nebraska, and who have been so engaged at least five years immediately prior to their appointment; one of whom shall be appointed for the term of one year, one for the term of two years and one for the term of three years, and thereafter it shall be the duty of the governor to appoint or reappoint one secretary each year after the term theretofore appointed shall expire, but each examiner shall continue in office until his successors shall have been appointed. The governor and said examiners so appointed shall be known and constitute the State Board of Osteopathy. Said board shall have and use a common seal and may make and adopt all necessary rules, regulations and By-Laws not inconsistent with law to enable it to perform its duties and transact its business under the provisions of this act.

Sec. 2. It shall be unlawful for any person, not licensed in this state previous to the taking effect of this Act, to practice Osteopathy and Surgery or any of the branches thereof in this state without having applied for and obtained from the State Board of Osteopathy, a license so to do. Application therefor shall be in writing, and shall be accompanied by the examination fee hereinafter specified, and with proof that the applicant is of good moral character. Applicants from candidates who desire to practice Osteopathy and Surgery shall be accompanied by proof that the applicant is a graduate of a school or college of Osteopathy in good standing as hereinafter defined. When the application aforesaid has been inspected by the Board and found to comply with the foregoing provisions the Board shall notify the applicant to appear before it for examination at the time and place mentioned in such notice. The examination shall be of a character sufficiently strict to prove the qualifications of the candidate as a practitioner of Osteopathy. The examination of those who desire to practice osteopathy and surgery shall embrace all topics and knowledge which is commonly and generally required of a candidate for a degree of doctor or diplomat of Osteopathy by reputable schools in good standing as hereafter defined. All examinations provided for in this Act shall be conducted under the rules and regulations prescribed by the Board, which shall provide for a fair and wholly impartial method of examination. Examination may be dispensed with by said Board, in its discretion, in case of an Osteopathic physician, duly authorized to practice osteopathy in any other state or the District of Columbia if such state or district is maintaining a standard of qualifications equal to the standard maintained in this state, who presents a certificate or license issued by such state or district accompanied by a fee of Twenty-five ($25.00) Dollars.

A special permit may be granted by the Board to an applicant deemed to it eligible but such special permit shall not operate beyond the date of the next regular or special examination held for the examination of applicants.

Sec. 3. The State Board of Osteopathy may revoke a certificate for unprofessional conduct of the licensee.

Sec. 4. That on investigation of the proof submitted to the Board, and after examination, where examination is required, as hereinbefore provided, the applicant shall be found entitled to practice there shall be given to said applicant the certificate of said Board under its seal stating such fact, and it shall be the duty of the applicant, before practicing, to file such certificate or a copy thereof in the office of the County Clerk of the county in which he or she intends to practice. Such certificate or copy shall be filed by the County Clerk and by him recorded in the book kept for that purpose to be called the "Physicians Register" and for such service the County Clerk shall receive from applicant the same fees as allowed to the Registrar of Deeds for the recording of conveyances. Said certificates shall confer upon the holder thereof the right to practice Osteopathy in all its branches, but it shall not authorize the holder thereof to prescribe or use drugs in the treatment of diseases except where the use thereof was taught in the school or college of Osteopathy of which the applicant is a graduate, at the time of his attendance at such school, and then only in those cases and in the manner in which the applicant has been taught to use the same. Provided that nothing in this act shall be construed so as to authorize the administration by any Osteopath of Drugs excepting anesthetics, antiseptics, antidotes for poison, and narcotics for temporary relief of suffering. Osteopathic physicians shall perform only such operations in surgery as were fully taught in the school or college of which the applicant is a graduate at the time of his attendance.

Sec. 5. Every applicant making application for an examination and a certificate under the provisions of this article shall pay to the board the sum of $25.00. All such fees shall be equally divided among the examiners appointed under this act and making such examinations as full compensation for their services.

Sec. 6. Osteopathic physicians shall observe and be subject to all state and municipal regulations relative to reporting all births and deaths and all matters pertaining to the public health, the same as physicians of schools of medicine, and such reports shall be accepted by the officers of the department to which the same are made.

Sec. 7. Any person who shall falsely represent himself to be a qualified Osteopath or shall practice or attempt to practice osteopathy or use the science or system of osteopathy in treating the diseases of the human body without having first complied with the provisions of this article and obtained a license to so practice, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined in any sum not less than twenty-five nor more than one hundred dollars, or be confined in the county jail no less than three months nor more than six months.

Sec. 8. The term school or college of Osteopathy in good standing shall be defined as follows: A legally chartered osteopathic school or college requiring for admission to its course of study a preliminary education equal to the requirements for graduation of an accredited High School, and shall further require before granting the degree of diplomat or doctor of Osteopathy an actual attendance at such Osteopathic school or college of at least thirty-two months or four terms of eight months each, its course of study to include the subjects and the minimum hours taught in each thereof as follows: Anatomy, five hundred forty hours; Chemistry, three hundred hours; Pathology, two hundred fifty hours; Toxicology, fifty hours, Pediatrics, one hundred hours; General Surgery, four hundred fifty hours; Obstetrics, two hundred hours; Histology, one hundred eighty hours; Physiology, three hundred hours; Hygiene and Dietetics, thirty-six hours; Practice, Therapeutics, General Diagnosis, and Technique, one thousand fifty hours; Dermatology and Syphilis, forty-five hours; Orthopedic Surgery, fifty-five hours; Gynecology, one hundred twenty-five hours; Embryology, seventy hours; Bacteriology, one hundred fifty hours; Comparative Therapeutics, seventy-five hours; Nervous and Mental diseases, one hundred fifty hours; Jurisprudence, Ethics and Economics, forty-five hours; Genito-Urinary diseases, forty-five hours; Eye, Ear, Nose and Throat, one hundred twenty hours. Provided the number of hours herein prescribed for the study of any subject may be reduced not more than twenty per cent, provided that the total number of hours prescribed be not reduced. The foregoing requirements shall be published in each catalogue of such Osteopathic School or college.

Sec. 9. Any candidate for license or certificate to practice Osteopathy in this state may be permitted to submit himself for examination in those studies and subjects completed at the end of the second year of college training, and if such examination is satisfactory and discloses that the applicant has mastered the subjects covered by such examination he shall be given credit therefor on his final examination. The applicant, before taking such partial examination, shall pay to the Board the sum of fifteen dollars, which shall be equally divided among the members of the Board making such examination as full compensation for their services. The applicant upon final examination shall pay to the Board an additional sum of fifteen dollars which shall be turned over to the Board and divided among them as in the case of the other fees.

Sec. 10. That Sections Nos. 2788, 2789, 2790, 2791, 2792, 2793 and 2794, of the Revised Statutes of Nebraska for 1913, and all Acts and parts of Acts in conflict herewith be, and the same hereby are repealed.

Dr. B. F. Bailey, City.

Dear Doctor: I wish to make the following report as to the disposition of the various bills introduced in the last legislature, in which your Committee was interested:

House Roll 188, pertaining to venereal diseases was passed. House Roll 107, pertaining to Chiropractors was passed as amended, eliminating surgery and internal medicine. House Roll 226, pertaining to Christian Science Practitioners, was killed in the House. Senate File 89, pertaining to Osteopaths was passed as amended, eliminating surgery, except as taught in school from which applicant did or shall graduate, and forbidding use of drugs except opiates for temporary relief of pain and laxatives, said amendment being a compromise reached at a meeting of your Committee and the Legislative Committee from State Osteopathic Society. Senate File 36, pertaining to the imparting of information to children under sixteen years of age, was killed. Senate File 119, pertaining to nurses was passed.

I hand you herewith copies of senate files 89 and 119, as passed, and House Rolls 188 and 107, as passed.

Respectfully submitted,

Fred C. Foster.

SENATE FILE NO. 119.

Introduced by Senator Cronin.

Title, A Bill.

For an Act to amend sections 3 and 5 of Chapter 198, Session Laws of Nebraska for 1915, relating to the registration of nurses and collection and disbursement of fees, and to repeal said original sections.

Be it Enacted by the People of the State of Nebraska:

Section 1. That section 3, chapter 198, Session Laws of Nebraska for 1915, is hereby amended to read as follows:

Sec. 3. That State Board for the Registration of Nurses shall cause the prosecution of all persons violating any of the provisions of this act, and may incur necessary expenses on that behalf to be paid out of fees received, as hereinafter provided. The secretary of the Board of Nurse Examiners shall receive a salary, to be fixed by the Board of Registration of Nurses. Each member of the Board of Nurse Examiners shall receive compensation at the rate of five ($5) dollars per day for each day during which said member is actually engaged in attendance upon the meetings of said board and also actual expenses incurred in the discharge of official duties. Said expenses and salaries shall be paid from fees received under the provisions of this act; and the balance of any fees remaining shall be paid into the state treasury for the benefit of the general fund. The secretary shall annually make a report to the governor of the work of said board of Nurse Examiners, together with the amount of fees collected, and disbursements. All fees received by said board of Nurse Examiners, under the provisions of this act shall be paid to the treasurer of said board, who shall from time to time, deposit the same with the state treasurer. Said State Treasurer shall pay the same out on vouchers issued and signed by the president and secretary of said board upon the warrants drawn by the auditor of the state therefor.

Sec. 2. That section 5 of Chapter 198, Session Laws of Nebraska for 1915, is hereby amended to read as follows:

Sec. 5. No person, unless previously registered or licensed to act as a registered nurse in this state at the time this act becomes operative, shall be allowed to practice as a trained, graduate, or registered nurse without first applying for and obtaining a certificate for such purpose from the State Board of Registration of Nurses. Such application shall be made to the Board of Nurse Examiners in writing, and shall be accompanied by a fee of five (5) dollars, together with satisfactory proof that the applicant is a citizen of the United States and an actual bona fide resident of the state of Nebraska, is not less than twenty-two (22) years of age, and after June first, 1920, has received an education equivalent to two years of high school, provided, however, that such high school education shall not apply to persons in training at the time of the approval of this act; is a graduate of and has a diploma from an accredited school for nurses requiring a systematic course of three (3) years training. An accredited school for nurses within the meaning of this act shall be a school primarily or by affiliation meeting the requirements promulgated by the American National Red Cross. When such application is found satisfactory, the Board of Nurse Examiners shall notify the applicant to appear before it for examination. The Board for the Registration of Nurses, upon written application and upon payment of five ($5) dollars as a registration fee shall issue a certificate without examination of the applicant, if said applicant has been registered as a registered nurse under the law of another state having, in the opinion of said Board of Nurse examiners, an equal or higher standard than the state of Nebraska for the registration of nurses.

Sec. 3. That said original sections 3 and 5 of Chapter 198, session Laws of Nebraska for 1915, are hereby repealed.

HOUSE ROLL NO. 107.

Introduced by Representative Frank Anderson of Hamilton County, by request.

Title: A Bill for an Act to amend sections two and five of Chapter 197, Laws of Nebraska for 1915, and to repeal said original section, and to declare an emergency.

Section 1. That section 2, chapter 197, Laws of Nebraska for 1915, is hereby amended to read as follows:

Sec. 2. Any person not licensed in this state previous to the taking effect of this act before engaging in the practice of chiropractic in this state shall make application for a certificate to practice accompanied by a fee of twenty-five dollars ($25.00). Said application must be upon forms furnished by the secretary of the board and include: First, the name and residence of the applicant; second, the date of applicant's diploma and evidence that such diploma was granted on personal attendance and completion of a course of not less than two terms of six months each, and after January 1, 1916, of not less than three terms of nine months, said course to be preceded by an educational training equivalent to that of a regular four years high school course. Third, the name of the school or college of chiropractic of which said applicant is a graduate, which said school must be a chartered institution in good repute at the time of granting such diploma. If the facts thus set forth shall meet the requirements prescribed by the rules of the said board of examiners, the applicant shall be entitled to take the examination before such board of examiners as to his qualifications for the practice of chiropractic, which shall include the subjects of anatomy, physiology, chiropractic, symptomatalogy, nerve tracing, chiropractic orthopedy, hygiene, principles of chiropractic, and adjusting, as taught by chiropractic schools and colleges. All applicants who shall correctly answer seventy-five per centum (75%) of the questions asked, and not fail to answer correctly sixty per centum (60%) of the questions on any branch of said examination shall be entitled to a certificate finding that he or she is entitled to a license to practice chiropractic in the state of Nebraska, which said certificate shall be signed by the chairman of the board and attested by the secretary with the seal of the board affixed. Upon the presentation of such certificate of the chairman and secretary to the governor, the governor shall thereupon issue the license to practice chiropractic in the state of Nebraska as herein provided. Any person failing to pass such examination may be reexamined at the next regular examination within one year from the time of such failure, without additional fee. Provided, all chiropractors practicing within this state two years prior to the passage of this act, shall be granted a license as herein provided, without examination, provided that application be made within sixty (60) days after the taking effect of this act and accompanied by the required fee, as herein provided, and upon filing with said board a diploma from some chartered college of chiropractic, showing the completion of a residence course of study in said college of at least two terms of six months each in separate years. Provided, further, the examiners may in their discretion, dispense with the examination in case, first, of a chiropractor duly authorized to practice chiropractic in any other state or territory or the District of Columbia who presents a certificate or license issued after an examination by the legally constituted board of such state, territory or District of Columbia, accorded only to applicants of equal grade with those required in this state, or second, a chiropractor who has been in the actual practice of chiropractic for five years, who is a graduate of a reputable school of chiropractic of equal grade with those of Nebraska, who may desire to change his residence to this state and who makes application on a form to be prescribed by the board, accompanied by a fee of twenty-five dollars ($25.00). A special permit may be granted by the secretary to an applicant deemed by him eligible, but such special permit shall not operate beyond the date of the succeeding regular or special meeting of such examiners. In all of the above provisions the fee shall be the same as charged to applicants for examination.

Any person shall be regarded as practicing chiropractic within the meaning of this chapter who shall adjust by hand any articulation of the spine. Provided that nothing in this act shall be so construed as to prevent any legally qualified physician from performing any operation or manipulation found necessary in the practice of his profession. Any chiropractor who has complied with the provisions of this act may adjust by hand any articulation of the spine, but shall not prescribe for or administer to any person any medicine or drugs now or hereafter included in materia medica, perform any minor surgery only as hereinbefore stated, nor practice obstetrics, nor practice osteopathy.

Chiropractic practitioners shall observe and be subject to all state and municipal laws and regulations relating to the control of contagious and infectious diseases, sign death certificates, and any and all matters pertaining to public health, reporting to proper health officers the same as other practitioners.

A certificate may be refused to any person convicted of felony or gross unprofessional conduct, or to one addicted to any vice to such a degree as to render him unfit to practice chiropractic, and for like reasons the certificate and license will be revoked upon due notice and hearing before said board. In all such cases provided for in this proviso, the board shall make a like finding as upon examination of an applicant and certify same to the governor, and if the applicant is found entitled to a license, or if the board find that the certificate and license theretofore issued should be revoked, as herein provided for, the board shall certify that fact to the governor, whereupon the governor shall issue to the applicant a license to practice chiropractic in the State of Nebraska, or revoke the license theretofore issued, as provided for in this act. Provided that such license shall not authorize the holder thereof to prescribe or use drugs in the treatment of diseases. In all cases of examination and all proceedings of the board upon applications to practice chiropractic, the finding of the board shall be entered upon the secretary's record.

Section 2. That Section 5, Chapter 197, laws of Nebraska for 1915 is hereby amended to read as follows:

Section 5. Any person who shall falsely represent himself to be a qualified chiropractor, or shall practice or attempt to practice chiropractic, or any person who shall buy, sell, or fraudulently obtain any diplomas or license to practice chiropractic, whether recorded or not, or who shall use the title chiropractor, D. C., Ph. C., or any word or title to induce belief that he is engaged in the practice of chiropractic without first complying with the provisions of this act, or any person who shall violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not to exceed one hundred ($100.00) dollars, or by imprisonment in the county jail for a period not to exceed three months, at the discretion of the court. All subsequent offenses shall be punished in like manner. Nothing in this act shall be construed to interfere with any other method or science of healing in this state.

Section 3. That said original sections 2 and 5 of Chapter 197, Laws of Nebraska for 1915, are hereby repealed.

Section 4. Whereas an emergency exists, this act shall take effect and be in force and effect from and after its passage and approval.

HOUSE ROLL NO. 188.

Introduced by Representative Barton Green of Lancaster and Senator A. F. Sturm of Cass.

Title: A Bill for an act to declare venereal diseases contagious, infectious, communicable and dangerous to the public health; to give the state department of health the power to make rules and regulations to control, suppress and treat venereal diseases; to provide a penalty and to declare an emergency.

Be it Enacted by the People of the state of Nebraska:

Section 1. That syphilis, gonorrhea and chancroid, hereinafter designated as venereal diseases, are hereby declared to be contagious, infections, communicable and dangerous to the public health.

Sec. 2. The State Department of Health is hereby empowered and it shall be its duty to make rules and regulations as shall in its judgment be necessary to control and suppress venereal diseases.

Sec. 3. Any person who shall violate any of the provisions of this act, or any rule or regulation made by the State Department of Health as empowered by this act, shall be deemed guilty of a misdemeanor, and upon conviction, for each and every such offense shall be fined not less than fifteen nor more than one hundred dollars.

Sec. 4. All laws or parts of laws in conflict with the provisions of this act are hereby repealed.

Sec. 5. Whereas, an emergency exists, this act shall take effect and be in force from and after its passage and approval.

REPORT OF COMMITTEE ON JOURNAL AND PUBLICATION.

The financial report of the Committee on Journal and Publication for 1918 follows:

JOURNAL FUND 1918.

Income:

Membership dues	$1,815.72
Advertising	2,999.00
Subscriptions	39.58
Total	$4,854.22
Amount Spent	$4,539.75
Balance	$ 314.47
Balance from Jan. 1, 1918	706.81
Balance Jan. 1, 1919	$1,021.28
The bank balance on May 19, 1919 is	$1,162.43

The affairs of the Nebraska State Medical Journal have run along fairly satisfactorily during the past twelve months. War conditions have interfered with a complete realization of the plans of your Committee, but there can be no doubt that the Journal is more and more justifying its existence.

Those in charge of the Journal very much wish that the profession in general would show its interest more by occasional contributions. The State Association papers and proceedings do not furnish enough material for twelve numbers of the Journal. The Journal belongs to the profession—not to the Committee. It is your Journal, not ours. The success of the Journal from a scientific and literary standpoint, therefore, depends on you equally as much as on the Committee.

The Committee requests a continuation of the

$1.50 per capita for each member of the Association to the Journal Fund.

Respectfully submitted,
F. A. Long, Chairman,
B. F. Bailey,
W. O. Bridges,
Committee on Journal and Publication.

PRELIMINARY REPORT OF COMMITTEE ON CARE AND PREVENTION OF CONTAGIOUS DISEASES.

This Committee having come into being on January first, all that we can make is a preliminary report.

The laws of the state relative to personnel of the county, city and village boards of health seemed to have no stability, inasmuch as the membership, to a great extent, varied. Accordingly, laws were passed at the last session of the legislature, stabilizing the membership of these boards throughout the state. These laws become effective July 17, 1919.

Great thanks for the enacting of these laws are due to Dr. A. J. Jenison of Harvard, a member of the last session of the legislature, who took a great interest in these matters, and together with Dr. Birdsall worked so that they were passed with practically not a dissenting vote.

The county boards of health will consist of the sheriff, who shall be chairman and quarantine officer, this meaning that he shall enforce the quarantine and prosecute violators; the county superintendent of public instruction, who shall be secretary. (In this connection we wish to state that the State Department of Health found that it was an utter impossibiliy, and as a matter of fact, an imposition, to expect a physician to act as secretary, with the amount of clerical work attached to this position, and for the further reason that when a physician was secretary, when he was most needed, he was the busiest. It is further believed that the superintendent of public instruction will have the interest of the health of his community at heart, for the reason that most of the communicable diseases occur in children, carrying with it the inconvenience of having schools closed, which has happened many times in almost every community. This board will also consist of a physician, who shall be medical adviser, which means that in cases of doubt, or where a question of health becomes involved, the physician is to give his opinion.

For cities of the metropolitan class, which of course in this state is only Omaha, the city department of health will continue as formerly, with the exception that the jurisdiction will be limited to the city limits. An opinion rendered to the State Department of Health by the office of the attorney general, during the time that Mr. Willis E. Reid occupied the office, stated that the law as it existed before this change maintained that the cities could only exercise jurisdiction up to the corporate limits, but in the event that the county did not do its duty, the city could go three miles out. It is believed that with stable county boards of health, and considering the fact that it was always questionable whether a city could exercise jurisdiction outside of its corporate limits, better results will be obtained. There is no reason for believing that communicable diseases will stop at any particular line, which necessitates having stable boards of health to cover all territory.

In cities of from 40,000 to 100,000, which in this state means only Lincoln the city department of health will continue as formerly, and the only change made is as existed in the metropolitan cities, with the exception that formerly the law stated five miles for cities of this class, while for metropolitan cities it was only three.

In cities of from 5,000 to 25,000 the local board of health will consist of the mayor, who shall be chairman, a physician who resides permanently in the city (and this will apply to physicians on any board hereafter, whether it be city or village, and also in counties where there is a physician) to be medical adviser; the chief of police, who shall be secretary and quarantine officer; the president of the council and one other member.

In cities of the second class, which means in cities from 1,000 to 5,000 inhabitants, the board of health shall consist of the mayor, who shall be chairman; a physician, who shall be medical adviser; the president of the city council; and the marshal of such city, who shall be secretary and quarantine officer.

In villages, which means any incorporated place up to 1,000 inhabitants, the board of health shall consist of the marshal, who shall be secretary and quarantine officer; the chairman of the village board, who shall be chairman, and one other member; and when a physician is residing permanently in the village, a physician who shall be the third member.

It is realized that one of the greatest aids in preventing, and when it exists, in putting down communicable disease, is prompt reporting to the proper officials, and in this connection we beg to advise that the State Department of Health has in mind and is at present in communication with the United States Public Health Service, to try to obtain free mailing privileges for physicians in this state. A letter received from the United States Public Health Service, dated May 15, 1919, signed by Assistant Surgeon General D. S. Warren states that this Service will be pleased to take up with the State Department of Health, when a representative from that Department visits Washington on June 4 for a conference of federal and state health officers, the matter of this franking privilege. We are in hopes that the State Department will be able to obtain same, because it is believed that this will be the greatest possible aid, in obtaining reports so essential to know where diseases exist, so that work can be inaugurated to stamp out same.

Respectfully submitted,
Wm. F. Wild.
Chairman of Committee on Care and Prevention of Contagious Diseases.

REPORT OF COMMITTEE ON PUBLIC HEALTH EDUCATION FOR NEBRASKA STATE MEDICAL ASSOCIATION.

Our Committee wants to protest that it has not had a fair show during the last year and a half. We were never notified that we were to be continued on the Committee. We didn't know that we had the responsibility of carrying on this important work for the Association, or that we had the right to act in its name. We were surprised to find our names listed on this Committee in the printed programs of last May's meeting, and surprised again when the Secretary asked for a report in December. What little work of this kind we have done in the last one and one-half years has been done because of personal interest in it, not because we knew we had any responsibility for or authority from the Association.

We arranged a "Health Exhibit" in the name of the State Medical Association at the Nebraska State Fair in September, 1917. This was somewhat larger than the exhibits of 1915 and 1916, and with as many new features as we could afford to add. The A. M. A. charts on Child Welfare made a valuable addition. We heartily appreciate the good work the A. M. A. has done on these charts. They are the best we have seen anywhere. The pictures catch the attention, and the important facts are so pithily stated that they are easy to remember. And, they are so cheap—only $2.00 for the set of 14 charts—that any interested community or club can afford to own them. We hope that the A. M. A. will soon put out an equally good set of charts about Cancer, Tuberculosis, Pyorrhoea, Venereal Diseases, Etc. The excellent "Child Welfare" charts which Kansas is putting out also formed part of the exhibit.

Our Committee also worked with our State President, Dr. Mullins, in planning and carrying out a day of free consultations and medical advice for defective children during the State Fair. This work was begun at the Fair in 1916, when Dr. McClanahan of Omaha gave advice to five of the state's handicapped children, all from Lincoln. In 1917, a small group of specialists examined and consulted over twelve little applicants for free health advice. The little ones came from all parts of the state. In 1918, a still larger corps of specialists was provided, for twenty ailing children had sent in applications for advice and help. Instead of the twenty expected and provided for, forty children appeared, so specialists, nurses, and clerks were all so overworked and hurried that they could not do their best work. There are many problems to be worked out before these free consultations for defective children can be called a complete success, and can give the best possible help to the children applying. But the increased attendance certainly shows that the parents are glad to get the disinterested advice of good specialists to improve their children's health.

Our Committee members also helped last spring in the examination of children under 5 years, as the Children's Bureau requested. We helped especially in the neighborhoods where our foreign population centers—the Mexicans, German-Russians, Italians, Greeks, Assyrians, etc. We thought that the health of the children, as a class, varied not only with the morals and the income of the family, but still more strikingly with the intelligence and willingness to work of the mothers.

Our Committee regards this "Health Education" work as the second most important that the doctors of our state can do. It is of first importance of course that every doctor shall care for every case that comes to him to the very best of his ability. But this Public Health work was started, planned and carried on by the brightest, busiest, most famous and most successful doctors of our Country. Drs. Wm. Osler, Rupert Blue, Wm. C. Gorgas, Edw. Reynolds, J. C. Bloodgood, Wm. Welch, W. C. Rucker, Emmett Holt, Richard Cabot, Frank Billings, Gideon Wells, the Mayo Brothers and the late Drs. W. L. Rowman and J. B. Murphy have been prominent in this work. These men realized that they were not only accumulating facts of immense scientific value when they proved that the Yellow Fever, Hookworm disease, etc., could be controlled and exterminated, but that they were preventing suffering and prolonging life for their fellowmen when they taught them to understand their own diseases and to cooperate intelligently in exterminating them.

The late war has taught the world how to value human life and perfect physique. People are eager to learn how to care for their own and their children's health. And many educational firms and societies are putting out health charts, cartoons, mechanical devices, printed lectures, and short plays to be produced by home talent. Even the ever popular "movies" have come to our aid and we can now get interesting and instructive films about Child Welfare, Tuberculosis, Cancer and Venereal diseases. If our Association could buy just one of these films, and put it in circulation as a nucleus for a future traveling "Health Exhibit," we could send out messages to all parts of the state at little additional expense. It could be booked ahead to the movie managers of successive towns, advertised as under the auspices of the State Medical Association and I think the managers would gladly show it for us without charge. Next year we could probably trade films with a neighboring state and send our people a message about another disease without added expense.

The State Medical Society of Maryland, which calls itself "The Medical and Chirurgical Faculty of Maryland," has a nice custom for bringing this health instruction before its people. They have a well advertised Health Week each year; exhibit open from 3 to 8 p. m., motion pictures 8 to 8:30 and one or two short talks in plain English on health subjects to follow. Perhaps one evening's program takes up Tuberculosis, another Cancer, another Child Welfare, another Venereal Diseases, and another the Degenerative Diseases and how to prolong life. Of course the task is easier for them than for us, for their's is a rich old Society. And they have the whole faculty of Johns Hopkins at their disposal, as well as the public Health Service at Washington, and the specialists of New York, Philadelphia, and Boston within reasonable call.

If the Health Education Committee of the Nebraska State Medical Association is ever to accomplish much, it must have money to work with, and the enthusiastic backing of hundreds of the most scientific and public spirited doctors over the state, to push the work in their own home communities.

Daisy M. Hanson, Chairman.

REPORT OF MEDICO-LEGAL DEFENSE COMMITTEE.

The Committee on Medico-Legal Defense reports the following activities from May to December 31st, 1918:

Two new cases have come to us in this time. One of these, and also one of the older cases, have been tried. We are glad to report that in both of the trials we were awarded clean cut verdicts for the defendant Doctors.

One of our Doctors who is now threatened with suit and had a demand made on him for settlement, has so notified us, and we are watching developments closely. It will be out of the ordinary if suit is not instituted.

We still have five cases pending, one of which is set down for trial February 15th, at Omaha; the case is ready, but in order to prepare it, we had to take one deposition in Oklahoma and one in the western part of this state. Two of these cases, due to the fact that the defendants are in military service, will no doubt be continued until the close of the war.

There is one matter, perhaps not properly a part of this report, but which we desire to incorporate herein, and that is an explanation relative to the resolution of the Adams County Medical Society, as it appears on page 193 of the June, 1918, issue of the Nebraska State Medical Journal.

This Resolution was never brought directly to the attention of the Defense Committee, our first knowledge of it coming through the pages of the Journal. In the beginning, there is only one point in the whole resolution which we concede, and we do this gladly, namely: that the members of the Adams County Medical Society contribute to the Defense Fund.

Their idea of local counsel being necessary for safe and efficient defense of a case is good; likewise, it has always been the practice of the Defense Committee, where the defendant doctors have so requested, to furnish local counsel. We have, however, always required that the attorney be well qualified, and only too often, when a case is left in the hands of local counsel, it has been found that, in one or two evenings superficial study, the lawyer has learned more about medicine or surgery, or both, than his client has gleaned in years of research and experience. This condition is not only disastrous, but very humiliating and expensive.

As to the jury's knowledge of the right of the defendant to the protection of the defense fund, we will say that this question is seldom, if ever, permitted to be asked, and in a case properly presented, should have no weight in the minds of the jurors. What the Society has in mind, as we take it, is the question which is usually propounded to our expert witnesses, which usually runs as follows:

Q. You are a member of the State Medical Association, are you not?

A. Yes.

Q. And Doctor (defendant) is also a member of this society, is he not?

This line of questioning is permissable, the plaintiff seeking to show prejudice of the witness, and for this reason, the Defense Committee wonders why the Resolution did not provide for the dissolution of the State Association.

The Statements of the Society that only a few of the members avail themselves of the opportunity for aid in the defense of their case, and, that the present system requires disclosures prejudicial to the defendant's interests, are evidently based upon the action of certain members of their own body. Two cases arose in Adams County within the past two years, both of the defendant doctors refused to give the information required by the by-laws of the Association, and consequently we did not enter their cases. The reason assigned for this course of conduct was that it might prejudice their case, and—— that the disclosures required in the questions asked would prejudice their case. If their cases have ever been tried, we are satisfied they had to make the very disclosures required by the Association. We tried to impress upon them that their statements would be treated as absolutely confidential, of necessity, but even then, they refused to give the report. The requirements of the Association are reasonable and such that any attorney should have before proceeding with a case. With matters in this condition, we believe our refusal to enter the cases was proper.

If the Adams County Medical Society, through its Committee, two members of which were concerned in the making up of the reports above referred to, can, by such unfounded Resolution, do away with the Defense Committee, we are entirely willing. We care not to say a word in our own behalf, but trust our continuation entirely in the hands of the members of the Association, and particularly those whom we have defended.

Respectfully submitted,
J. S. Welch, Associate.
Joseph M. Aikin, Secretary.
A. S. v Mansfelde, Chairman.

LIBRARIAN'S REPORT.

Mr. President and Members Nebraska State Medical Association.

Herewith I hand you the Librarian's report for the fiscal year 1918:

Money received from Dr. Aikin, May 1, 1917		$25.00
Disbursements:		
Bibliographies, etc.	$7.00	
Postage	2.00	
Miscellaneous	1.85	10.85
Check to cover balance		14.15
		$25.00

There were received during the year magazines as listed below:

Journal of the American Medical Association—Jan., Mar. 5, Apr. 4, May, June, July, Aug., Sept., Oct., Nov., Dec.

California State Journal of Medicine—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

New York State Journal of Medicine—Jan., May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Tennessee State Med. Assn.—Jan., June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Kansas Medical Soc.—Mar., April.

Journal of the Med. Assn. of Georgia—April, May, June, July, Aug., Sept., Oct., Nov., Dec.

Southwestern Medicine—March, Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Wisconsin Medical Journal—April, May, June, July, Aug., Sept., Oct., Nov., Dec.

Pennsylvania Medical Journal—Feb., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Indiana State Med. Assn.—Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of Arkansas Medical Society—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Kentucky Medical Journal—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Oklahoma State Med. Assn.—Jan., Mar., Apr., May, June, July, Aug., Sept., Dec., Nov.

Texas State Journal of Med.—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Missouri State Med. Assn.—Jan., March, May, June, July, Aug., Sept., Oct., Nov., Dec.

Journal of the Iowa State Med. Assn.—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Vermont Medicine—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., December.

Ohio State Medical Journal—Jan., Mar., June, July, Aug., Sept., Oct., Nov., Dec.

The Journal of the Med. Soc. of New Jersey—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Colorado Medicine—Jan., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

Northwest Medicine—Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.

American Medical Assn. Bulletin.

United Fruit Company.

Maine State Medical Journal—July, Aug., Sept., Oct., Nov., Dec.

Bulletin of Medicine and Chirurgical Faculty of Maryland.

There were also received books as follows:

35 pamphlets.

Gray's Anatomy—Twentieth Edition.

A. M. A. Council on Pharmacy and Chemistry reports.

Section on Genito-Urinary Diseases — A. M. A. 1917.

Orthopedic Treatment of Gunshot Injuries—Mayer.

Physiology for Nurses—Christian-Haskell.

Hygiene for Nurses—Mumey.

New and Nonofficial Remedies—1918.

Nursing in Diseases of Children—Leo Wolf.

Principles and Practice of Infant Feeding—Julius Hess, M. D.

Autointoxication or Intestinal Toxemia—J. H. Kellogg, M. D.

Syphilis and Public Health—Vedder.

Surgical and War Nursing—Barkely.

Biennial Report of the Louisiana State Board of Health.

Military Hygiene—Keefer.

Surgical Treatment—Warbasse.

Gynecology—Graves.

Genito-Urinary Diseases and Syphilis—Morton.

Principles of Bacteriology—Eisenberg.

Abstracts of War Surgery.

Information for the Tuberculous—F. W. Wittich, M. D.

Mental Diseases—Gulick.

Physiology and Biochemistry in Modern Medicine—MacLeod.

Clinical Medicine for Nurses—Paul H. Ringer, M. D.

The Newer Knowledge of Nutrition—E. V. McCollum.

Roentgen Therapy.

Dispensaries—Management and Development.

Medical Service at the Front.

Information for the Tuberculous—Wittich.

Principles of Bacteriology—Eisenberg.

Mental Diseases—Gulich.

Diseases of Infancy and Childhood—Koplik.

Gray's Anatomy.

Roentgen Diagnosis of Diseases of the Head—Schuller.

Clinical Medicine for Nurses—Ringer.

Abstracts on War Surgery.

We have endeavored during the year, to supply all the information asked of us by those members so requesting, and only deplore the fact that more members have not availed themselves of the opportunity presented in our splendid Association with the State University Library.

Several good books have been received in this fiscal year—some of the reviews have been published while those covering books coming from publishers not advertising in our journal, have been held up pending suitable action on the part of the publishers.

I want to take this occasion to thank Miss Wilson, Librarian of our State University Library, for the valuable assistance she has rendered me.

Respectfully submitted,
Wm. Wherry, Librarian.

Jan. 18, 1919.

Joseph M. Aikin, Secretary,
Nebraska State Medical Association,
476 Brandeis Bldg.,
Omaha, Neb.

Dear Doctor Aikin:

With the notice of my appointment as chairman of the Hospital Survey Committee a letter with preliminary plans was sent to me by Dr. N. P. Caldwell, Secretary of the Council of Medical Education. Dr. Caldwell either wrote me or told me that the matter would be taken up later. Since then I have heard nothing in regard to this survey. It is quite likely that it has given way to more important war work.

Respectfully yours,
A. D. Dunn.

Vice is a monster of such hideous mean, that to be hated, need only to be seen; seen too often, grown familiar with its face, first, we abhor, then pity, then embrace.—(Pope).

Sleep is no servant of the will. It hath caprices of its own; when courted most it lingers still; when most pursued 'tis swiftly gone.

Private X had undergone an operation. He was wheeled from the operating room into a ward and at the end of an indefinite period recovered from the anesthetic, held an inventory of himself and brightened.

"I feel better," he said. "And now I'm glad it's all over."

"Huh," said the man in the cot on his right, "don't be too sure it's all over. They left a sponge in me and had to cut me open again to get it."

"Yes," said the man on his left, "and the doctor left his scissors in me and had to probe for them again."

Just then the doctor entered the ward. "Has anybody," he asked, "seen my hat."

In Memoriam

Herewith respectfully submit the following report in memoriam for the departed members of our Association for 1918, and move that a page in memorial be set aside in our official Journal.

> "I cannot say, and I will not say
> That he is dead—he is just away.
> With a cheery smile and a wave of the hand
> He has wandered into an unknown land,
> And left us dreaming how very fair
> It needs must be since he lingers there.
> And you—oh, you who the wildest yearn
> For the old-time step and the glad return,
> Think of him faring on, as dear
> In the love of There as the love of Here,
> Think of him still the same; I say
> He is not dead—he is just away."

PASSED TO THE GREAT UNKNOWN DURING 1918.

NAME	DATE OF DEATH
Milan D. Baker	April 27th
Don LeRoy Talcott	May 26th
C. C. Sackett	June 13th
C. C. Allison	June 19th
E. A. Hudson	Oct. 7th
Edward Miller Ware	Oct. 14th
Joseph Harold Boyes	Oct. 23rd
Dietrich L. Bartling	Oct. 20th
W. T. Johnson	Dec. 18th
*Geo. Buol	Dec. 21st
*E. L. DeLanney	Dec. 25th
H. J. Winnett	

*Died while in the M. C., U. S. A.

THE NEBRASKA STATE MEDICAL JOURNAL

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J. M. Aikin, Managing Editor..........Omaha

Committee on Journal and Publication.

F. A. Long, Chairman..........Madison
W. O. Bridges..........Omaha
B. F. Bailey..........Lincoln
J. M. Aikin, Ex officio..........Omaha

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The Fifty-first Annual Convention.

Our fifty-first Annual Convention was an important and also a successful one. It should prove one of the most valuable ever held by the Association and stimulate thoughtful consideration of large medical problems, not only in the minds of those members who were fortunate enough to attend but also in the minds of those who for one reason or another were unable to be present, for they will have access to the papers and discussions as they appear in the Journal and are asked to read them carefully.

It was the first opportunity since the close of the war for discussion of the problems opened up by that great conflict. Much space was accorded to the returning members on the Scientific program. The application of war medical problems to civil practice was discussed in a constructive manner and the way opened by which the methods evolved in the war may be applied to present day needs. It is necessary, however, if this is to be done, that the members of the profession keep the problems in mind and each endeavor to seek his own solution. This being done, future meetings will give rise to a greater number of opinions and more abundant discussion from which gradually that which is of merit can be sifted out and prove of great value to the science of medicine.

The war, through the experience gained by the members of the medical profession who entered the service, has taught a great lesson. These physicians were, many of them for the first time placed in positions where they had at their disposal, men of other branches of medicine upon whom they could freely call. This has developed a broader knowledge of the value of co-operation in medicine, both for for the individual physician and for medical science. Advances have been made, notably in standardization of treatment which would have been impossible under other conditions. It is a question whether these physicians, having seen the advantages of such methods of medical practice, will be willing to return to former methods. We must therefore expect cooperative medicine in the future and plan for such. The stimulating address delivered by our president, Col. Banister, reviewed the advances made during the war and all could be traced to cooperation as their fundamental basis. The excellent addresses of the chairmen of the Sections, Dr. Christie of the Medical, and Dr. Welch of the Surgical, reflected the train of thought which seemed to pervade the meeting that cooperation was necessary. If such a course is followed voluntarily by the physicians of this state, Nebraska, at least for some time to come, need have little fear of state control of medical practice, such as has been put in force in England. In order that this may be done it is necessary that each physician in the state give thought to the means by which the problem may best be worked out in his own community and it is earnestly hoped that this will be done. The time has come when the individual physician must cease to regard himself as an individual solely but must realize that he is an important member of the body politic and owes duties to his municipality, state and profession at large which he cannot shirk.

Health Officers and Sanitarians.

With the return of physicians and surgeons to civil life after their discharge from army service we will do well to remember that in one branch of medical work particularly the entire country will be much richer. A larger number of physicians than ever before have been trained in sanitary science, a science which has been greatly neglected heretofore in the curricula of medical colleges. Those physicians who were assigned as sanitary inspectors of the various army units however have received intensive training for longer or shorter periods of time. They have worked under conditions which, both in this country and abroad have been more difficult to deal with than the conditions which present themselves in the cities and towns of our country. They have met and subdued epidemics which assumed alarming proportions. Pneumonia, Empyema and Influenza—to say little of Measles and Mumps. They have been trained in garbage and sewage disposal, preventive medicine, and the destruction of insects which are disease carriers. Their work has been done well. We have at hand therefore a corps of well trained scientific sanitarians and this supply should not be diverted to other channels by allowing them to return simply to private practice. These men can be impressed into the service of their communities to act, if needed as Health Officers, or if that position is well filled as advisers to that officer. At the Annual Convention of the State Association, the House of Delegates passed a resolution as follows:

"Be it resolved, that the Nebraska State Medical Association goes on record as being in favor of appointing state health officers trained in public health service in the cities and counties of the state."

If a man properly qualified can be found in the community where a health officer is needed, by all means let him be appointed to the office. No community, however, should fail to draw upon this supply of well trained men for its needs, merely through a feeling of local pride or the desire to give preferment to a political favorite.

Lieut. Colonel James F. Edwards has been chosen Health Commissioner for Omaha. The City Council of Omaha is to be commended for accepting the recommendation of the Omaha-Douglas County Medical Society, in this appointment.

Communication From Commissioner of Health.

In volume 4, No. 4, of the Journal for April, 1919, there appeared a communication in the editorial column, signed F. A. L., relative to the system of collecting vital statistics. The principal point that seems to be involved in this complaint is the fact that the State Department of Health has neglected to send out bound blanks, so that the possibility of crumpling, as sometimes happens with loose blanks, would be avoided.

The matter of collecting vital statistics in this state has not been given the attention that it deserves, no doubt due principally to the fact that the Department never had sufficient help to carry on this work to the extent that would permit us to be recognized by the United States Census Bureau as a registration state.

When the Department was re-organized on July 25, 1917, except for the writer and one girl, everyone was new to the Department and we suppose it will be universally conceded that it takes at least a little while for anyone to become acquainted with the work.

To give an idea as to the percentage of births collected during 1917, we will state that they numbered 25,496 exclusive of stillbirths, and with the stillbirths added, totaled 25,894. This the writer figured to be approximately 62% complete. In 1918, there were recorded at this office 30,136 births, exclusive of stillbirths, and with the stillbirths added, totaled 30,903. The greatly increased number of stillbirths reported, together with the large increase of living births, must at least indicate that an enormous amount of work has been done.

To go further, we might state that since the writer took charge on January 17, 1918, of four positions of clerks and stenographers, we have had approximately sixteen people holding these positions, which in itself precludes the possibility of training anyone so that they would become familiar with this line of work. The last legislature increased the salaries of the clerks and stenographers so that we believe we are now in a position to retain assistants.

Further, the amount of money appropriated for overhead expenses for the biennium for 1917 to 1919 was $10,000, in other words $5,000 a year. This legislature has doubled the appropriation. We believe it will be readily conceded that it is an utter impossibility to run an entire health department on $5,000 a year, still we had to make a start over the old system.

It can hardly be appreciated just how hard we have worked on vital statistics since January 17, 1918. We have forms whereby we can check each place in each county monthly, because the local registrars report monthly. We have compiled the births and deaths by months by counties, totaling the ninety-three counties of the state for the whole month, besides totaling the individual counties, and have compiled the twelve months for each county, and the twelve months for the entire state in fourteen different groups. Each death is recorded under its specific cause. In other words, if anyone desires to know how many people died of any disease in any county for any month, or in a county for a whole year, or in the state for any month or for the whole year —and the same with births—we are in a position to tell them.

With an increased appropriation, we can display more energy in all Departments. We readily admit that improvement can be made in the executive, the epidemiological, bacteriological, vital statistics, and sanitary engineering departments, but regarding this last we wish to state that the writer tried all over the country to obtain a competent man for the position—because to have any other would be worse than useless, in fact, would be a menace to the state—but the salary was such that it precluded the possibility of obtaining anyone.

That our medical laws needed revising, I do not believe anyone discovered faster than myself, for besides the general appropriation bills for salaries and maintenance, which required an enormous amount of our time, we put through nine bills affecting the Department directly, and two bills regarding venereal diseases. We have at present a law passed giving Nebraska, as far as conditions in this state will permit, the model vital statistics law as recommended by the United States Census Bureau.

The question now arises as to why we do not go ahead and put these laws in force. In the first place, the majority of them do not carry the emergency clause, which means that they will not become operative until three months after the legislature adjourns. In the second place, the civil administrative code bill becomes effective three months after the legislature adjourns, and according to the provisions of this bill, the work done by the State Department of Health will be taken over by the Department of Public Welfare, the object of this bill being to combine departments, and eliminate, as much as possible, boards and commissions.

To get down to the principal point in the article signed F. A. L., we will state that we have in mind just such a procedure as is mentioned therein, viz., to bind these certificates in books of twenty-five, fifty, and one hundred, and the reason it was not done before was because we had no money with which to do it. To compare an appropriation of $5,000 with the United States Weather Bureau is flattery of the worst type, unless F. A. L. is joking about the matter.

But to believe that this alone will put Nebraska in the registration area is useless; we know that it will not be the case, because we have written practically all over the state, asking for suggestions, and we have received many hundred replies, some desiring books bound in twenty-five, as per F. A. L., others fifty, some one hundred; some want little pamphlets, with just lines, on which they can make memoranda. But the outstanding fact remains that these births could be reported practically as well on loose leaves, if the desire to do so was inherent.

To illustrate, from the town of Wauneta, Chase County, we have received no reports of births or deaths for August, September, October, November, December, January and February. Does anyone believe that furnishing blanks bound into booklets would get reports from this place? The reason we have not gotten them is shortage of money, but we are going to get them, we feel quite positive. We have checked the state as it has never been checked before, and as soon as the information is compiled, we will know exactly in what counties and in what sections of each county we are lame in collecting these reports.

To go further, we will take just two of the hospitals from Omaha, and it is to be understood that the hospitals are not responsible for the reporting of the births, but this responsibility rests upon the attending physicians. Let us take the Methodist Episcopal and St. Catherine's Hospitals, and if we would take any others they would run the same. Now, in the Methodist Episcopal Hospital, according to the report filed with this Department, there occurred during the year 1918, 182 births, of which number 42 were not on record in this office when we checked up the list. Taking St. Catherine's Hospital, there occurred during the year 1918, according to the report sent us by the hospital, 168 births, of which 25 were not on record in this office. Does F. A. L. believe that certificates bound in books of twenty-five would have gotten all these reports? What the writer believes is that by furnishing these institutions with blanks, and asking for their cooperation, they will call the attention of the attending physician to the fact that the births should be reported.

So you see there is a great deal to be said about birth registration. It is quite a study, and we desired a little time to figure just how to proceed, first by checking up to see what was wrong, and then trying to correct it.

One of the easiest ways not to report a birth is to call the system in vogue unbusinesslike. This is a work that is used, to a great extent to cover a multitude of complaints, just as the word "unconstitutional" is used to a great extent to kill certain legislation.

Relative to the indelible pencil, the new law requires that the certificates be written in durable black ink, for the reason that these are permanent records, and must be plain and legible at all times.

We figure on the state as a whole; this information could not be obtained in one day. Conditions that apply in certain sections of the state are hardly applicable to every other, just as conditions existing, say, in Massachusetts would not be applicable to Nebraska, and when we have no money, we are rather put up against a hard proposition, not as to how to carry out all suggestions, but as to how to carry out any.

To say that the blanks are "thrown at" the profession at irregular intervals without system and apparently without definite aim, as far as this Department is concerned, and as far as the money appropriated would permit, is going at least a little beyond the pale, because any physician can obtain from the local registrar at any time all the certificates desired, and all the local registrar has to do to obtain them is to write to this Department. That a definite aim is in view becomes apparent, we believe, when we state that the object of having these blanks printed is to obtain reports of births.

We dislike to answer criticisms, but if this is the F. A. L. we are told it is, it is our opinion that F. A. L. knows that the state has never appropriated sufficient money to carry on its Department of Health.

And further, we wish to state that we had this idea, as well as several others, in view when this article was called to our attention.

We however believe that with our present appropriation of $20,000 maintenance for the biennium, or $10,000 per annum, that we can carry on a Department that will furnish every convenience to the profession, besides getting out literature on public health matters that will be of benefit. We are at present gathering material for a prenatal pamphlet; this in addition to our baby book, which we are now sending out. But nothing will be done until the Department of Public Welfare takes charge, which will be in about two and one-half months hence. We realize that more literature is needed; that a bulletin issued quarterly would be in order; but this could not be done before on account of shortage of money and insufficient salaries appropriated that could assure us of retaining assistants for any definite length of time.

Wm. F. Wild,
Commissioner of Health.

Concerning the State Department of Health.

In a communication from Dr. Wm. F. Wild, State Commissioner of Health, commenting on the Editorial in the April Journal, "System and the Collection of Vital Statistics" the Commissioner indicates that the department has heretofore been badly hampered in its operation from want of sufficient funds to properly prosecute the work as it should have been done and says: "We believe that with our present appropriation of $20,000 maintenance for the biennium, or $10,000 per annum, we can carry on a Department that will furnish every convenience to the profession, besides getting out literature on public health matters that will be of benefit." He also indicates that war conditions have made it doubly difficult to obtain and retain competent help and that the labor of organizing the department has been more strenuous than would appear to an outsider. The suggestions contained in the editorial are kindly received by the Commissioner and will be incorporated, at least in part, in the department stationary, we are told.

The Commissioner points out the difficulty of getting returns of births and deaths, and instances the case of a fair-sized western Nebraska village from which no report of births or of deaths has reached the department in seven months, and of several Omaha hospitals the birth reports of which indicate that the attending physicians fail to report to the department from twenty-five to thirty-seven per cent of the cases. This is a startling indictment of the profession and may well cause us to stop and take notice.

The law creating the State Department of Health is one of the best and the hearty cooperation of the profession with the Commissioner should bring returns equal to those of any state.

F. A. L.

Sorbonne Detachment, Army Educational Commission, Paris, May 15, 1919.

Editor Nebraska State Medical Journal:

I have been away from home so long, two years now, that I feel rather lost and am getting anxious to get back and get in touch again with all my friends in Omaha and in Nebraska. My service in France, of nearly a year and half, most of the time in command of a 500 bed camp hospital has been interesting in the extreme and I feel repaid in the belief that we have done our share in bringing about the great result which all were seeking, but the most interesting part of my experience here has been this present detail giving me the privilege of four months post graduate study in the hospitals of Paris, a city than which there is none more rich in material for study and in the permanent value of the medical achievements realized.

After a few days survey of the work open to us here I chose the Hospital Cochin—the Clinic of Prof. Widal—as the best place to spend my time, and have been following it up closely ever since. Prof. Widal is a man yet in the prime of life, a careful investigator and a profound thinker, with an inexhaustible capacity for work; and his reputation and achievements have served to attract to his service some of the brightest minds of the younger coterie of French physicians as coworkers and assistants in his unceasing labor of research investigation. Following his earlier studies in typhoid fever which resulted in establishing the diagnostic serum reaction which bears his name and which is universally employed. Prof. Widal has interested himself more particularly in the study of diseases of the kidneys—a field of work of immense importance, but hitherto not sufficiently understood. His aim and the result of his studies has been to transfer our diagnosis and treatment of these cases from a classification based principally upon structural changes in the kidneys to one which takes more fully into account the changes which occur in their functional activity as manifested by the elimination or retention within the organism of those substances which it is the function of the kidney to remove. In a word he has substituted the study of pathologic physiology, or function, in place of that of pathologic histology, or structure, which gives us a basis much more comprehensive and practical and which is founded on the dictum of Claude Bernard that disease is only the expression of an attempt of the organ affected to carry out its normal functions under changed, or abnormal conditions.

Generally speaking, the functions of the kidney which interest us as physicians are those of salt excretion and elimination of urea and when these are interfered with by disease the results are known as chloremia and azotemia—names which were given to them in this Clinic. These two disturbances of function may occur at the same time or may be dissociated in such a way as to give us at times a pure chloremia without disturbance of urea elimination and at other times a pure azotemia without salt retention and its accompanying oedema, each of which conditions presents a picture entirely distinct and separate from the other which may be easily and definitely recognized by use of the proper methods.

The result of this work then has been to classify and divide into its constituent parts that more or less vague and too comprehensive symptom-complex which we have so long studied under the name of uremia, and there have emerged from it, according to the classification given by M. Widal, the four grand syndromes of (1) Azotemia, (2) Chloremia, (3) Hypertension and (4) the urinary syndrome characterized by a great amount of albumen, casts and red blood cells in the urine, which is more particularly that form of uremia following acute nephritis.

The methods employed in the pursuit of these studies and which are now used as diagnostic measures are the determination of the salt content of the blood and of the urine and the determination of the quantity of urea in the blood and in the urine and the results of these tests combined with the knowledge gained from clinical experience of their application give us the most accurate and valuable method of estimating the condition of a patient's kidneys which it is possible to have and at the same time they furnish logical indications as to the best method of treatment to be used. Given the necessary laboratory equipment the tests are easily and quickly made for the purposes of diagnosis and by their repetition from time to time they give us definite information as to the progress of the case and so of the efficacy of the measures which we are employing for its relief.

It seems strange to one who has always been used to thinking and hearing of cases of nephritis as interstitial, parenchymatous, etc., practically never to hear these terms used in considering and treating this disease; not that they do not know and fully understand these anatomical changes here but they seem to have been relegated to a position of so much less importance than they used to have in comparison with the information afforded by a knowledge of cell activity and actual kidney function that they are only mentioned occasionally as if of minor importance. Widal insists upon the supreme importance of determining the urea content of the blood in estimating the severity of the case in hand and in determining its prognosis, saying that of the two it would be better to neglect the search for albumen and casts in the urine rather than not to know the amount of urea retained in the blood. From his experience he has built up a scheme for the determination of an approximate diagnosis which runs somewhat as follows: 50 centigrammes, one-half gramme of urea per liter of blood is considered the normal standard and when he finds a case which persistently runs from 60 to 70 centigrammes up to one gramme of urea per liter, the prognosis would be for a year or two years of life; with between one and two grammes of urea it is rare that the patient will live more than a year, with ⅔ gramme it is a question of months or weeks and with three grammes or more it is generally only a question of days until a fatal issue supervenes.

A more delicate test and one which gives more exact and definite information is that of the determination of the Constant of Ambard which represents the relation between the amount of urea in the blood and the amount in the urine both taken at the same time. In the normal individual the amount of urea in the blood varies as the square root of the amount of urea in the urine and the very earliest and most accurate knowledge we can get of a case in which kidney trouble is suspected is by making this determination to see whether or not this normal relation is disturbed and if so we can be sure that there is a real kidney lesion and that the patient needs constant careful watching.

Their results here as to treatment are good, almost brilliant in the cases of chloremia treated by an absolutely salt free diet and the daily use of theobromin, but for the azotemic, or nitrogen retention cases, there seems to be little of permanent value that can be done, for as the scheme for prognosis shows they steadily progress in spite of all efforts to relieve them or stop their progress and die within a year or so of the time their onset is discovered.

We all desire to see the science of medicine approach more nearly to the realm of the exact sciences, to introduce as much of precision and exactitude into our diagnosis and treatment as the natural instability of the conditions under which we work will allow and in no branch of medicine has there been made a greater and more practical and valuable step in that direction than in these methods of the examination and treatment of nephritis such as has here been elaborated by Prof. Widal and his pupils. He has brought these conditions and the recognition of them from obscurity into the light and has established definite chemical tests, measures of precision whereby we can discover them, estimate the damage done, watch their progress and direct their treatment almost with the accuracy of a laboratory test. They deserve to be more widely known and more generally adopted.

Working here with Prof. Widal, his assistant, Dr. Abrami has also discovered the etiology of paroxysmal hemoglobinuria and has proven that the seat of this trouble lies, not in the kidneys but in the blood, and that the kidneys which have so long been thought to be the seat of the disease play only the secondary role of excreting substances produced elsewhere and do not form them. In a susceptible individual he can bring on an attack at will, with all its attendant phenomena and this, too, with almost as much ease and certainty as one can make a test in the laboratory. They have also worked out a method of treatment for this condition which has been very successful.

Applying a method of approach to the problems of icterus and diseases of the liver very similar to that employed by Prof. Widal in studying the kidney, and in fact largely suggested by observations growing out of this work, Dr. Brule working in this clinic has lately published a book entitled "Recent Researches upon the Subject of Icterus" which bids fair to upset all of our old and long established notions of icterus and its method of production. The ideas which he sets forth here will undoubtedly have a profound effect upon all our future conceptions of liver disease. He finds that practically all these disease processes are the result of changes in the hepatic cells and not as has been hitherto believed due to obstruction of the ducts either at the Ampulla of Vater or deeper in the small bile ducts. The facts which he presents are the culmination of years of study, experiment, and careful clinical observation and seem to have been so carefully weighed and studied from all angles as to be irrefutable.

I hope to be able to write you again and more at length upon this most interesting contribution to medical progress which Dr. Brule has made.

Henry L. Akin,
Major, Medical Corps, U. S. A.

NOTICE.

The Midwest Physician's Golf Association will hold their annual swatfest at Happy Hollow Golf Club, Omaha, Nebraska, on Monday, July 21, 1919.

Dr. C. O. Rich, Secretary.

A. M. A. CONVENTION JOTTINGS.

June 9, 1919, House of Delegates, Atlantic City, N. J., Delegates Joseph M. Aikin and LeRoy Crummer seated.

The opening of the second session on the first day, 100 delegates out of a possible 150 seated.

Council on Medical Education recommended more rigid inspection of medical colleges than has been made during the past four years.

The Ohio plan that our profession refrain from combative action, but when asked our views regarding proposed bills affecting medical practice, educational qualifications or sanitary laws, we council with them, was recommended.

Improvement in the character of hospital training for internes was strongly advocated. With 5,000 calls for internes each year only about 2,500 are available.

In 38,000,000 wage earners, 9 days on the average per person per year are lost on account of sickness. That represents $78.00 per person per year loss of income or an average of $42.00 per year for medical attendance on the $1,200.00 per year income.

200,000 people in United States die from tuberculosis each year and this is a preventable disease.

Registration about 5,000, the largest for any previous meeting at Atlantic City. 43 Nebraska physicians were registered.

The next annual meeting of the A. M. A. will be in New Orleans; the exact date of meeting probably the last week of April or first week of May, 1920.

Rear Admiral Braisted was elected president; Dr. Alex R. Craig, of Chicago, re-elected secretary; Dr. Hubert Work of Colorado Springs, Colo., re-elected Speaker of the House of Delegates, and Dr. A. R. Mitchell, of Lincoln, re-elected a member of the Board of Trustees.

STATE ASSOCIATION CONVENTION JOTTINGS.

The attendance was good. 365 registered.

The hours for opening and closing sessions were closely observed.

Fraternalism and cooperation marked the spirit of the Convention.

Nine of our twelve councilors responded to their official duties in the Board of Councilors and House of Delegates.

The Delegates voted a hearty endorsement of the plan initiated by the program Committee for calling the House of Delegates to organize Monday evening, then hold their second session Tuesday morning before convening the Scientific Session.

Favorable comment was made on the quality of our program, but regrets that our time for presentation and discussion of papers was too short.

The regret was expressed that good fellowship in social gatherings was not given the prominence its value warranted. It was suggested that at our next Convention we should adjourn for a full half day and evening holiday relaxation from scientific or business matters.

All who attended the Banquet were enthusiastic in praise of the appetizing menu, delightful musical program, and splendid address by our President, Colonel Banister. One member said: "A dandy meal, fine music, a wonderful address and adjournment, without a season of tiresome toasts."

Our membership on May 20th was 1028.

Chairman R. B. Adams, with his associates on the Committee on Arrangements, were alert and most cordial in supplying every convenience for the work of the Association, and pleasure of the attending physicians and their wives.

Our next meeting will be in Omaha—during May, 1920.

Our President and Vice-Presidents elect are H. W. Orr, of Lincoln, George H. Brash, of Beatrice, and Adolph Sachs, of Omaha, respectively.

Charles Inches, of Scribner, President in 1891-92, M. L. Hildreth, of Lyons, President in 1892-93, and A. S. v Mansfelde, of Ashland, President in 1893-94, were familiar and welcome members and participants in our Convention.

The Medical Veterans of the World War met in Lincoln, Nebraska, May 20, 1919, for the purpose of organizing a State branch of the National organization. The following officers were elected: Pres. Dr. A. F. Jonas; Vice- Pres., Dr. James M. Patton; Secretary-Treasurer, Dr. Claude T. Uren. Dr. Jonas was elected delegate to the national meeting, which will be held in Atlantic City in June.

The state organization now has a hundred members. Application for membership should be made to the Secretary, Claude T. Uren, 324 Omaha Nat. Bank Bldg., Omaha.

President Banister of our State Medical Association has appointed the following members as a special committee on the Study of Cancer, to report at our next annual meeting: D. T. Quigley, H. E. Eggers and J. S. Foote, all of Omaha.

Swedish Mission Hospital Training School for Nurses Graduating Class 1919.

Minnie B. Short, Wahoo, Neb.; Hannah A. Blomquist, Spaulding, Neb.; Effie S. Johnson, Hartford, S. D.; Helen K. Rasmussen, Blair, Neb.; Jennie W. Newhouse, Omaha, Neb.; Ella M. Nielsen, Dannebrog, Neb.; Dora V. Petersen, Dannebrog, Neb.; Beata A. Hanisch, Rockville, Neb.; Lillian Pearl Roberts, Westboro, Mo.

Methodist Hospital Training School for Nurses Graduating Class 1919.

Class motto: "We serve."

Class colors: Pale Pink and Silver Gray.

Class flower: Pale Pink Sweet Pea.

Class: Myrtle Mae McGirr, Gussie Virginia Peterson, Gladys Remender, Dorothy Fulton, Lucin Mary Penwell, Florence Margaret Kerr, Marie Elizabeth Holan, Helen Marie Packard, Maude Denne, Hazel Louise Bethea, Alta S. Corn, Irene L. Cratty, Mabel E. Simpson, Lillyan Thompson, Alta Leonard, Ruby C. Krause, Cornelia Pond, Bessie Bieber, Hazel I. Boyd, Grace M. Lowry, Marie M. Miller.

Green Gables Training School for Nurses Graduating Class 1919.

Lumir E. Dvorak, Chicago, Ill.; Katharine Alice Mourer, Power, Montana; Anna Maria Berk, Lincoln, Neb.; Ruth Josephine Blair, Lyons, Kan.; Alice Frances Hicks, Lincoln, Neb.; Bertha W. Grote, Clifton, Kan.

STATE NOTES.

Drs. Donald MacCrae and L. E. Hanisch, of Council Bluffs, Iowa, have located in Omaha and have offices in the World-Herald Building.

Major Ira H. Dillon of Auburn was a recent caller at the Journal office enroute to Camp Dodge for discharge from the service. He goes directly from Camp Dodge to Cucyrus, Ohio, as Oculist and Aurist, of the Crawford County Clinic. We regret his removal from Nebraska, but rejoice in his promotion for efficiency in professional service.

DEATHS.

Dr. E. W. Minton, aged 66, a noted practitioner at Oakdale for thirty-four years died at the latter place Friday morning after a year's illness of heart disease. Dr. Minton was a man of unusual breadth of learning and was beloved by all who knew him.

Books Received at the Nebraska State Medical Journal Office During May, 1919.

Advertisers in the Journal:	Company
Whitman's Orthopaedic Surgery	Lea & Febiger
Hare's Practical Therapeutics	Lea & Febiger
Simon's Human Infection Carriers	Lea & Febiger
Leed's Medical War Manual No. 3, Military Surgery of the Ear, Nose and Throat	Lea & Febiger
Wall's Sex and Sex Worship	C. V. Mosby Co.
Leavitt's Operations of Obstetrics	C. V. Mosby Co.
Non-Advertisers in the Journal:	
Best's The Blind	MacMillan Co.

Regular Meeting of the Omaha-Douglas County Medical Society.

The regular monthly meeting of the Omaha-Douglas County Medical Society was held at St. Joseph's Hospital on April 15, 1919, at 8:00 p. m.

The meeting was called to order by the President, Dr. W. P. Wherry.

The minutes of the previous meetings were read and approved, after which Dr. Wherry announced that a vote would be taken upon the passing of the constitutional amendments read at the January meeting of which each member received a copy.

It was moved and seconded that the constitutional amendments be passed, and they were passed by unanimous vote.

The following names came up for membership:

Dr. J. K. Muldoon, Dr. E. W. Bantin, Dr. Frank S. Stodden.

It was moved and seconded that the rules be suspended and the secretary instructed to cast a unanimous vote for these three doctors for membership in the Association. This was unanimously carried and they were declared elected to membership in the Society.

There being no other business to come before the Society it was announced that after a great deal of work the Building Committee had decided upon a proposition which would be presented at a meeting of the Society at the University Club on the following evening.

Dr. Wherry also announced that very shortly there would be an announcement of some sort of entertainment for the returning soldiers.

Dr. Wherry: I am now going to introduce Dr. Dunn, whom you all know, who will take charge of the clinical program.

Dr. A. D. Dunn in taking charge of the meeting said:

We have arranged a clinical program for this evening that is varied, and a clinical program not to be presented by one man but by several men. It was considered as to whether we should present in an elaborate and intensified way one or two cases or whether we should present shortly and concisely a larger number of cases. The program committee decided on the latter course.

The cases will be presented briefly and they will be open to discussion. The period of presentation will be limited to fifteen minutes and the total time of discussion ten minutes. Individual discussion will be limited to three minutes.

The first case will be presented by Dr. Adolph Sachs.

Dr. A. Sachs.—This patient has been of unusual interest to me on account of many peculiar findings, and for that reason I desire to present it this evening.

Male. Age 32. Married, one child living, good health.

Occupation, salesman.

Complaints: Intermittant fever, weakness, tired, unable to work.

Family history: Father living, age 57, good health. Mother living, age 55, good health. Brothers, none. Sisters, none. No cancer; no T. B.; no insanity.

Past History: Usual childrens' diseases. Pneumonia at age of six. Tonsilitis. G. C. Influenza. Has always been rugged and healthy and strong up to the present time.

Personal habits: No excesses.

Present illness: On December 6th he had influenza and a broncho-pneumonia illness duration of about fourteen days. Remained at home until January 10th. Apparently made a slow recovery, and from about February 5th started having afternoon fever and night sweats. Patient gradually became weaker and weaker, until he could no longer work. Feels prostrated. The last of February he noticed that his abdomen protruded and had some pain in his left side and shoulder. Was seen by a physician and diagnosed as spleen tumor. Patient complains of bloating and distress immediately p. c. Belching relieves. No vomiting. No pyrosis. Bowels O. K. No relation to kind of food. Appetite fair. Lost twenty pounds in weight in one year. No jaundice. No colic. Feet began to swell soon after abdomen became larger. No headaches. No ocular nor aural symptoms. Irritated throat.

Respiratory Symptoms: Negative.

Circulatory Symptoms: Dyspnea on exertion. Dizziness. Swelling of feet. Palpitation.

Genito Urinary Symptoms: Negative.

Nervous Symptoms: Negative.

Special Symptoms: Four years ago, patient noticed slight enlargement of glands on left side of his neck. These caused no inconvenience so he never bothered them. Recently these glands have become much larger.

Examination: Patient medium stature; pale; has all appearance of a severe illness. Eyes react to light and accommodation. Other examination negative. Eye grounds negative. Ears negative. Throat, chronic pharyngitis. Nose, negative. Pulsation veins of neck. Enlarged glands left cervical, right cervical, axillary and inguinal. Lungs negative, except dullness at bases. No fluid. Heart: tachycardia 110. Apex fifth interspace, slightly outside of nipple line. Hemic murmurs at base. Pulse regular, fairly good volume.

Abdomen: Marked ascites. Liver enlarged three fingers breadth below costal margin. Slightly tender. No jaundice. Spleen markedly enlarged, filling left upper quadrant of abdomen. Slightly tender. Otherwise, negative.

Rectal examination, negative. No glands, prostate normal.

Legs, edematous, otherwise negative.

Laboratory Findings.

Blood	April 10, 1919	March 21, 1919
Reds	2,432,000	3,500,000
Whites	3,400	3,000
Hemoglobin	35%	53%
DIFFERENTIAL:		
Polys.	66%	65%
Small L.	26%	30%
Large L.	8%	4%
Eosinophiles	0%	1%
Basophiles	0%	0%

Malaria, negative.

Other examinations about the same.

Repeated examinations for malaria negative.

Wassermann: Negative.

Provocative injection Novarseno-Benzole.

Wassermann later, negative.

Stool negative.

Urine negative.

This case, as you all can see, is a type of splenomegaly and our diagnosis must be reached by exclusion. Leukemia ruled out by blood examination. Malaria ruled out by blood examination. Gaucher ruled out by negative history. Hemolytic jaundice ruled out by negative history and blood examination. Syphilis ruled out by blood examination and negative Wassermann, and negative provocative injection.

I thought mostly of a pseudo-leukemia, or an atypical Banti. A small gland of the neck was excised, which was examined by Dr. Frank Hall of Kansas City, and diagnosis of Lympho-Sarcoma was made.

From our pathological report and history and progress of the case as well as our negative laboratory findings,. I feel justified in making a diagnosis of lympho-sarcomatosis.

I have had one other case similar to this one in a Greek boy of sixteen years of age, with enlarged cervical glands, large spleen liver and ascites. This case also showed a constant leukopenia and intermittent fever. The gland excised proved to be lympho sarcoma. The patient died in two months and a post mortem examination showed involvement of the retroperitoneal lymph glands, spleen, kidneys and lungs.

I will watch this case closely, and be pleased to report later findings.

Dr. Dunn: The next on our program is Clinical Suggestions on Splenomegalies **by** Dr. M. G. Wohl.

Dr. Michael G. Wohl.—The spleen is a singular organ, for it constitutes the primary etiologic factor of many blood disorders and it is secondarily involved in various other diseases. Thus we are all familiar with the large mushy spleen of Septicemia, Typhoid; the large hard spleen of chronic malaria, syphilis and tuberculosis.

The spleen is closely associated with the liver. Their relationship is so marked that it is at times difficult to determine whether the spleen is the primary factor and the liver of secondary importance or vice versa.

This is illustrated in cases of cirrhosis of the liver, as in the following instance of a chronic alcoholic whose post mortem revealed the typical "hob nail" liver and the large firm spleen.

(Demonstration of liver and spleen).

Cases of primary splenomegaly have attracted much attention because the early removal of the spleen in the majority of these cases has resulted not only in distinct improvement but accomplished almost complete restoration of health. Among the primary splenomegalies we shall consider:

1. Splenic Anemia, the principal varieties of which are:
   - (a) Banti's Disease (adult type).
   - (b) von Jaksch Disease (childhood type).
   - (c) Splenomegaly of Gaucher's type.
   - (d) Hemolytic Jaundice with Splenomegaly.

The splenomegaly of acquired hemolytic jaundice (Hayem-Widal disease) and the congenital or Chauffard Minovski disease we shall simply mention.

Splenometaly of childhood or von Jaksch disease is typified by the following case of Dr. Floyd Clarke, who was very kind in giving us the opportunity of studying the case and letting us bring it before you.

Case 1. L. T., age 4 years, Italian parentage. Normal delivery.

Past History: Since the child was one year old it had enlargement of the spleen. At the age of two she had an attack of cerebrospinal meningitis; was treated with Flexner's serum and made good recovery. The spleen at this time was decreased in size. One year afterwards the child developed an anemia with swelling under the eyelids and an iceteric tint all over the body.

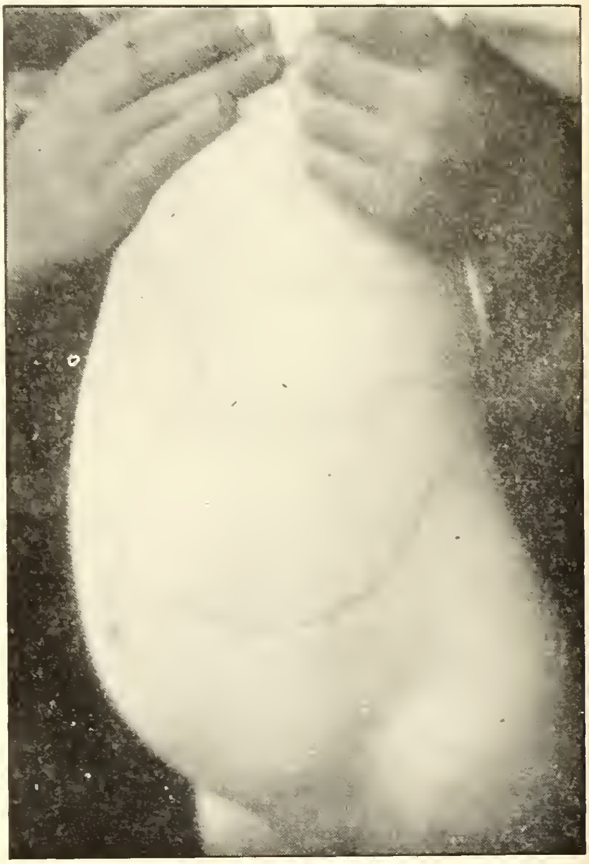

Fig. 1. Case of von Jaksch Disease. Note size of Spleen.

The spleen was enlarged, extending about four finger breadths below the umbilicus. Liver was slightly enlarged. External glands normal. (Fig. 1).

The blood examination showed a slight leucocytosis with a very marked anemia, hemoglobin being only 40%; red blood cells 2,400,000. The red blood cells showed many nucleated forms and there were present micro and macrocytes.

Now regarding the disease:

The condition was first described by von Jaksch in 1887 under the name of Anemia Pseudoleucemica Infantum.

The etiology of the disease is unknown, except that the toxic agent exciting the disease may also produce Rickets; the similarity of the two is more than of passing interest; thus in Rickets the bone marrow is affected, the spleen enlarged more than in 20% of the cases and there is also a leucocytosis.

The chief features of von Jaksch disease are a persistent leucocytosis, enlarged spleen with at times an enlargement of the superficial glands and secondary anemia.

The pallor, edema, weakness and dyspnea are the result of blood changes. The blood picture is distinct.

There is a marked diminution in hemoglobin. The reds are greatly reduced. The color index is low (the higher the color index the worse the prognosis). In our case the hemoglobin was 40% and reds 2,400,000 and there were skeined or reticulated red cells.

A characteristic cell that is often mistaken for a lymphocyte is a large red cell with a polychromatic cytoplasm and a nucleus that has a radial structure.

These cases have a tendency to recover. Of late, they have performed splenectomies with good results.

Our next case illustrates the so-called Banti's syndrome.

Case II. Miss M. F., case of Drs. J. Dwyer and A. Sachs. Patient, 60 years of age; occupation housewife; admitted to St. Joseph Hospital 1-12-1919.

Complaints: Swelling of the left side; fullness; pain in the left side, weakness, swelling of feet; stomach trouble.

Family and past personal history negative, as far as present condition is concerned.

Present Illness: Patient has been feeling badly for some time complaining chiefly of weakness and considerable gastric distress. Some pain after eating, especially after heavy foods. About a year ago she noticed a swelling in her left side, which later became painful. Her abdomen gradually became larger remaining so up to the present time. As the abdomen grew larger the pain increased; also feet began to swell and gave her considerable annoyance. Weakness became more and more pronounced until during the last few weeks she has been practically bed ridden and was referred to the hospital for treatment.

The physical examination of heart and chest were practically negative.

The abdomen was distended and filled with fluid. The spleen was enlarged, extending into pelvic cavity. Liver was nodular.

Blood examination: Hemoglobin 70; leucocytes 5.200; red blood cells 3,200,000.

The differential leucocyte county revealed a slight relative lymphocytosis (30%). Urine was negative except a trace of albumin.

The patient was placed upon usual treatment. However, she continued to get worse and died on Feb. 11, 1919.

I shall only mention our chief post mortem findings of the case. The abdomen was enlarged and filled with about 1500 cc. of clear yellow fluid. The spleen was ten times the normal size (demonstration of spleen), hard and firm. Malpighian bodies atrophic. The liver of typical "hobnail" type. Other viscera showed some parencymatous changes. The mucous membrane of stomach was the seat of multiple hemorrhages.

The microscopical examination of spleen as shown by the slides under the microscope revealed marked fibrosis with atrophy of Malpighian bodies. The blood vessels were the seat of thrombotic changes. (Fig. 2).

The earliest description of the disease was given by Gretsel in 1866. We owe, however, to Banti for the classical description of the advanced state of the same.

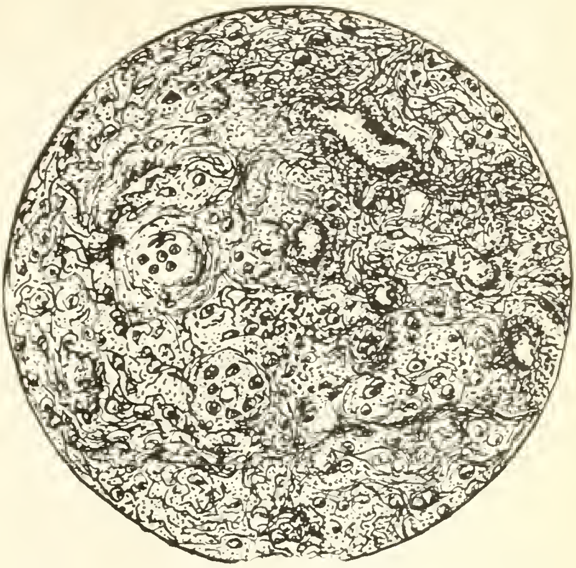

Fig. 2. Drawing of section of spleen of Banti's disease. Note the marked connective tissue formation.

The etiology of the disease is unknown. Warthin believes it to be a thrombophlebitis; Hollis considers the B. coli communis to be the etiologic factor. Bunting and Jates have described a diphtheroid organism as the cause of the disease.

The symptoms of the early preascitic state are a gradually increasing weakness, anemia with gastric disturbances. The spleen is large and smooth.

The blood findings are those of secondary anemia with a leucopenia. It is in this stage that splenectomy gives best results.

The second stage is characterized by attacks of diarrhoea and constipation and is of a few months duration. When the advanced third stage supervenes, with asites and cirrhosis of the liver, as illustrated by our case.

In this stage of the disease splenectomy is accompanied by great mortality and the chances of improvement are small.

Gaucher's splenomegaly is a very rare disease, there being only nineteen authentic cases reported in the entire literature.

This disease begins in childhood and is characterized by a progressive enlargement of the spleen and subsequently of the liver. The distinctive features of the disease being the presence in these organs and lymph nodes of a large vesicular cell with a small concentric nucleus.

Splenomegaly of pernicious anemia and myelogenous leukemia are to be differentiated from the above by the characteristic blood findings.

The next case (which will be shown by Dr. Tyler and whose history will be described by him) illustrates the type of splenomegaly of Leucemic nature. This case is rather interesting. About three years ago when I saw him first with A. K. Detwiler at the Nicholas Senn Hospital, he had a spondylitis of the cervical vertebra. His Wassermann was four plus. He was placed on specific treatment. His blood was otherwise normal; the spleen not enlarged.

I lost track of him, until in January, 1919, when he was admitted to Dr. B. Riley's service at the St. Joseph's hospital.

At this time his spleen was markedly enlarged and he had the typical blood picture and symptomatology of myelogenous leukemia. Under specific and X-ray treatment his spleen was reduced in size, the blood picture improved and patient has been able to resume his previous occupation.

Dr. Dunn: The case of Dr. Sachs and the discussion of Dr. Wohl on Clinical Suggestions on Splenomyelogenous Leukemia are open for discussion. (No response). There is certainly plenty of matter for discussion. (Still no response). Don't all be bashful—Dr. Wherry suggests that we call on Dr. Bridges. Dr. Wherry assumes the responsibility.

Dr. W. O. Bridges: I was very much interested in Dr. Sach's case—one presenting phases of the greatest difficulty of diagnosis, and particularly so if one has not the opportunities of working out a case. One point which is particularly interesting to me in reference to these cases is the constant leucopenia. I saw a case not long ago of lympho-sarcomatosis, having enlarged glands of the neck, tumor of the chest, white cell count 63,000 and 90,000 before the patient died. This was the result of a focus of purulent necrosis in the center of an anterior mediastinal tumor disclosed on operation and at autopsy.

Another point I wish to speak of in regard to splenomegaly is the fact that we may have complications. We have the mixed clinical history, mixed pathology, mixed manifestations along all lines. This makes it difficult to work out. This case illustrates a type which is of itself definite as proven by examination of the gland under the microscope. If an autopsy could be obtained later on in order to find out whether there was a complicating feature it would be of interest.

From a diagnostic point of view this case is very interesting indeed. It has been my privilege to see half a dozen cases of Banti's disease, and we have cases of early Banti's with cirrhosis of the liver and ascites where operation has been resorted to with successful results—the patients going on to recovery.

In the line of the other type of essential anemias referred to, the splenomegalys and also the leukemias, they are interesting from every point of view, interesting to study, both clinically and from the laboratory point of view.

Dr. Dunn: Dr. Clarke.

Dr. Floyd Clarke: This disease is not altogether uncommon in children. It has been my misfortune to see four cases of von Jaksch's anemia in children. One occurred in the clinic at college. The patient died a short time after we saw it.

This little girl here had an attack of enlarged spleen about a year prior to having the cerebrospinal meningitis. At the time of the meningitis the spleen decreased in size and about a year elapsed before she again began to have symptoms of enlargement of the spleen, accompanied with the icteric tint of the eye and general jaundice over the entire body.

A point which seems interesting to me is that in all probability there is an infection back of this, and in children especially the association with rickets. Almost always in children anemia is associated with rickets. It also occurs in infection. Just where the infection occurs it is almost impossible to say. This little girl has enlarged tonsils. I am under the impression that if the tonsils were to be removed it is quite possible she might have some result from that.

The occurrence of purpuric spots about the body, that is purpura hemorrhagica is explainable if we accept the etiologic factor of infection. There is no doubt in my mind of the important part infection plays in this disease. The occurrence of nucleated reds in the diagnostic blood picture it seems to me is of extreme importance. If you find a case with leucocytosis, low hemoglobin, and nucleated reds I believe the diagnosis is made, coupled with the other findings.

I doubt the advisability of calling this a distinct disease. It is merely a blood picture with enlarged spleen occurring especially in children. It is a symptom complex accompanied by a blood picture, back of which is an infection.

Another interesting feature is that the enlargement of the spleen went down after the attack of meningitis. This is frequently the case in children, that a super-infection occurring on top of another infection, the mild infection seems to subside for awhile.

Dr. Dunn: Dr. McClanahan, you must have seen a great many cases of Banti's anemia among children.

Dr. McClanahan: I have, it is true. It has always seemed to me that many of these blood diseases are syndromes without exact diagnosis. I know cases in which symptoms were present that fully recovered. Other cases following after measles. Whether there was any relationship between the measles and that I do not know. I may have been in error in thinking it was that, and since seeing Dr. Sachs' case—it may have been a sarcoma. I do not just at this moment recall the details of the case. I saw it about two years ago. The child completely recovered—not from any merit in the treatment, simply from the fact that she did recover. I recall another case in line with Dr. Clarke's. After removal of the tonsils there was marked improvement. I do not think every child's tonsils should be removed, but I do believe that the tonsils should be considered as a portal of entry not only in this but in other cases.

I am just trying to recall an article in the British Journal on serum treatment, but whether there is any virtue in it I am not prepared to say, and I don't remember clearly enough the details, but it has occurred to me there might be something in serum treatment.

Dr. Dunn: Any further discussion?

It has certainly been most interesting to hear the position taken by Dr. McClanahan that "blood diseases are largely syndromes." This is a viewpoint that has appealed to me for a long time. It would seem to me in many instances that we are simply picking out certain symptoms and pathological findings and classifying them as a disease, without considering whether various symptom groups which we designate as separate diseases are not merely different pictures of the same disease process. We have learned that what we have formerly designated Banti's disease and splenic anemia are merely phases of the same process. The same may be true of lymphatic leukemia, pseudo-leukemia, lympho-sarcoma, et cetera. Tuerck looked upon these diseases as one process which he designated lymphomatosis. In lymphatic leukemia the multiplying cells invade the blood stream, in lymphosarcoma and in Hodgkin's disease the regional tissues.

Pernicious anemia and combined degeneration is another group with the same story. English neurologists today diagnose a disease as "combined degeneration with anemia." In this country we have largely come to the view point that these cases are pernicious anemia with spinal cord changes. In all of the observations that I have been able to make on this type of case I have found that sooner or later the blood picture of pernicious anemia is present.

Dr. Tyler will now talk on "Blood Changes Following Deep X-ray Treatment."

Dr. A. F. Tyler: My subject necessarily limits the discussion to the X-ray treatment of myelogenous leukemia. I wish to show one patient and recite briefly some of his symptoms showing the size of the spleen when he came for treatment and his present condition.

He came to me August 26, 1918, his complaint at that time was enlarged spleen, tired feeling, swelling of feet, and ankles. He had hospital care in 1917, at that time having treatment for lues as mentioned by Dr. Wohl.

At the time he came here he had a four plus Wassermann, a spleen which filled two-thirds of the abdomen, extending down to the pubes in front and almost to the mid-clavicular line on the right side. The blood examination at that time showed hemoglobin 70%, Reds 2,880,000, whites 200,800. Differential: Lymphococytes 3%, Myeloctyes 21%, nucleated Reds 2%, Basophiles 12%, Polymorphonuclears 27%. On September 10th, two weeks later, after X-ray treatment had been administered six days, the red cell count was 3,200,000, white cells 75,200. A differential count was not made. On September 19th the hemoglobin had increased to 70%, red cells to 3,431,000 and the white cell count dropped to 18,000, with Myelocytes 11%. One month later the white cells were 7,500. The myelocytes present in September were 11%, in October 7%.

The patient is forty-six years of age. Before bringing him in I wish to mention briefly the symptoms and blood findings following X-ray treatment of a patient of eighteen years who came in about the same time, had practically the same treatment and results have been equally satisfactory. This patient had a spleen filling two-thirds of the abdomen. The leucocyte count when the patient came in was 288,000, hemoglobin 65%. Three weeks later the white cell count was 101,000. A week after that it had dropped to 41,600. On these various dates, at the time the white cell count was 288,000 the Myelocytes were 30%; when it dropped to 101,000 the Myelocytes dropped to 24%, and when the whites dropped to 41,600 the myelocytes dropped to 13%. This patient is entirely well so far as can be ascertained by physical examination and blood count can determine.

(The patient is brought in).

At the time the patient came here for treatment the spleen extended out beyond the liver and down across to the pubes, as I have indicated with a pencil. At the present time, the patient is able to carry on his occupation of telegrapher, and the spleen is just barely palpable. If any one wishes to palpate the spleen you are at liberty to do so. (Dr. Sachs palpated the spleen).

Dr. Dunn: The X-ray Treatment of Myelogenous Leukemia is open for discussion. This is an interesting topic. We are all anxious to know what to do for these cases. Dr. Powell?

Dr. Powell: Is this the case you spoke of as having a specific history?

Dr. Tyler: Yes, four plus. Treated with neosalvarsan, mercury and iodides.

Dr. Wohl: About three doses of salvarsan, and heavy doses of mercury.

Dr. Ellis: What is the Wassermann now?

Dr. Tyler: Not made recently. The patient has been out from under my care. The last time it was made was in December, it was negative then.

Dr. Powell: Of how long standing?

Dr. Tyler: A number of years. Began in November, 1917.

Dr. Powell: A year and a half. It is the same picture you see in everyone of these myelogenous leukemias. The same picture, the same history. Every one will improve under X-ray. The first X-ray will knock it down so fast it will scare you to death, and it looks great, but I want the X-ray men to tell us why they don't keep it there. It will come back just as fast as it went down. And the second time you can take it down. And the next time you can't. The man goes on and dies just the same. Three cases recently I have operated on and removed the spleen. The first one I operated on three years ago. The spleen was removed after the first shot of X-ray. Six months ago she was still alive. The other two are dead. The interesting point is this: The other two were removed, one after the second time, the other after the third time X-ray. One other case; also dead. I didn't operate on him. I got cold feet. Dr. Tyler had that case—a fellow by the name of McCarthy. I think you had two trials. The interesting thing is that you can show dozens of first treatments with X-ray and then they slip and you wonder what happens, and it is the same with all medical treatment, and all surgical treatment as well I wish you would find out what it is in the X-ray that does so nicely and then quits.

This last case, with the clinical history is rather interesting. It is a complication associated with lues so he may have a chance. But he has another year and a half that he is allowed to live. Most of them live for three years. I have read reports of cases living nine years without X-ray treatment.

Dr. Dunn: Any further discussion?

Dr. Ballard you have had a good deal of experience with this type of case. You have the floor.

Dr. Ballard: I have treated a good many of these cases, and my experience has been that they eventually die. The first time you get their blood count and blood picture back to normal; if the spleen should be removed at that time it might benefit the patient (this is to be proven). It seems to me it might prolong life beyond the period of the X-ray. Under X-ray treatment they do very nicely, the spleen disappears almost magically, but they come back later on with enlarged spleen. It reduces again but each time it becomes more difficult and finally X-ray has no effect whatever.

Dr. Dunn: Any further discussion? Some of the surgeons? Dr. Bridges?

Dr. Bridges: For about eight years I have studied the influence of roentgen treatment on spleens of this type and about a year and a half ago I abandoned the use of the X-ray in splenomyelogenous leukemia. I am substituting the use of benzol. I have had even better results, altho the patient dies just the same. To my mind benzol has several advantages. You can give it with the patient twenty miles away, and you don't have to take his farm for his treatment.

Dr. Dunn: Dr. Jonas?

Dr. Jonas: I have never operated upon a myelogenous spleen. I still remember a remark of the late Nicholas Senn. He became very much enthused over the treatment of myelogenous spleens with X-ray, very shortly after X-ray was introduced. I remember meeting him one day in Chicago and he got hold of the lapel of my coat and said: "The thing you want to do for myelogenous spleen is to treat it with the X-ray. The patients actually get well." He had had two cases treated who made rapid and apparently very remarkable recoveries. Shortly there appeared a very learned article by Nicholas Senn on this subject. He believed his patients were cured. About two years later I met him again. I said: "How about the cases of myelogenous spleen you described in the Journal? What became of them?" "Well," he said, "they are both dead."

I have never had these cases presented to me in a surgical way but I remember Senn's statement and I decided if they died in the hands of one of the greatest surgeons in the country, I had better keep my hands off.

The spleens I have operated have been simply splenomegaly or hematogenous hypertrophy. I have operated on a dozen of them and lost three. I am sure the three deaths were due to error in technic. In our early operations the technic was deficient and I am sure the results were due to the defective hemostasis. The later cases recovered from the operation. One case, a man about 35 years old, I remember him particularly because the spleen was so large he bent over to the right side and seemed to push himself into the office. It was simply a hypertrophic spleen enlarged so that it reached the diaphragm, its pressure causing palpitation of the heart. The spleen was removed and he made a good recovery. I had a letter from him from St. Louis stating he believed he was the only man on top of the earth without a spleen and he expected to go down to the Midway and exhibit himself as a spleenless man. He wanted an affidavit from me testifying that I had removed his spleen. I very promptly wrote him that he couldn't disgrace me more than to exhibit himself side by side with an affidavit from me; that there were many men without spleens, I was sure. He didn't exhibit himself.

Some of these cases have made most remarkable recoveries. The hematogenous type have recovered from the effect of the operation and remained well. One case four years ago, another case two years ago, and another case within the year, but with the myelogenous type I would give the patient the most approved medical treatment and make him as comfortable as I possibly could, fill him with hope, and have him live as long as he possibly could.

Dr. Dunn: Any further discussion? Dr. Tyler, is there anything you want to add?

Dr. Tyler: I just want to explain my position in the X-ray treatment of cases in answer to Dr. Powell's discussion. We can reduce the spleen just as certainly as we can make the bowels move when we give a dose of castor oil. This can be done once, twice, and possibly three times. After that series has been gone through with then the patient will go and die in spite of any treatment. You can combine benzol and X-ray, and you will get just the same results. The cases Dr. Powell operated have been relieved, but the same end result has followed. I am simply showing this case this evening, to show the blood picture which follows X-ray treatment. Now, I believe, if we can give a patient temporary relief for six months, or for a year, or for a year and a half, or for two years, it is worth while.

Dr. Dunn: The next case to be presented is one of Charcot's Joint.

Dr. J. Fred Langdon: I wish to present a case that gives the following history.

The patient is a male 49 years of age. Father and mother lived to old age. Three brothers died in infancy. Wife died in accident at 46. She bore no children, had two miscarriages. Patient has always been healthy. Had gonorrhea twenty-three years ago. Lues denied.

About one year ago left ankle suddenly became swollen and tender. Had not injured it in any way. Remained that way for about a week and then subsided. A little later left hip became tender and he thinks swollen. This subsided and shortly after the left knee became swollen, painful and tender. The swelling in the knee never subsided since that time. The left ankle became swollen and tender a second time. Patient had no difficulty in walking previous to the onset of his trouble, but he noticed about this time that both legs were weak and he began to have shooting pains in both legs. These pains he said would come suddenly at any time and last from a few seconds to a few minutes. At one time he had an attack in which the pains lasted for an hour and a half and were almost unbearable. Patient has always been able to walk, the walking seeming to have no effect on the pain. Since January he has done very little walking having been in bed much of the time under treatment. Since being on treatment he says his pain has gone, the swelling has reduced in the knee but that joint seems to flop around, as he expresses it, more than it did previously.

Examination reveals a male, 49 years of age, well nourished. Teeth are in bad state of decay, pupils are sluggish, react slowly. All deep reflexes are absent. Left knee is immensely swollen. There is marked crepitation and extreme lateral mobility. The joint can be moved in abnormal direction with perfect ease. There is no pain. When he came to the hospital in January the urinalysis was negative, Wassermann negative. At that time the spinal fluid gave a negative Wassermann, cell count 92, and plus globulin. He has been on treatment since that time and today an examination of the spinal fluid showed a three plus Wassermann, cell count of 8, and negative globulin. The X-ray plates, (read by Dr. Tyler) show considerable destruction of the inner condyle of the femur with marked new bone formation filling almost the entire joint.

In looking over the history there is one point that stands out prominently, namely: that in spite of the enormous swelling the patient has never stopped walking, with the exception of the time he has been compelled to by his physician. This is a rather important point, and one that leads us to a consideration of Charcot joint. Most any book you pick up will describe a Charcot joint as a painless swelling. In this history you will notice that pain figures rather prominently. The patient located the pain in the joint, but on close questioning says the pain was all up and down the leg, he could hardly tell where. I believe his pain that he located in the knee were in reality tabetic pains and not the pains of joint inflammation.

Another point I would call your attention to in the history is the fact that several joints were primarily involved. It started first in the ankle, which swelled and subsided, then the hip became involved, next the knee and then the ankle. Does this preclude a diagnosis of Tabetic Arthropathy? I think not. Dr. Dunn lately called my attention to a theory which has been advanced and which is in keeping with the findings in this case, namely, that Charcot Joint is not a luetic infection of the Joint, but a chronic arthritis occurring in a Tabetic. According to this theory these patients have an Arthritis, due to focal infection such as bad teeth or tonsils, etc. The complete disorganization of the joint that results is due to the continual trauma occasioned by the patient using the joint as these Tabetics do. The protective pain that causes muscular splinting of the inflamed joint in the non-tabetic is wanting in the Tabetic. The joint does not pain him, so he goes along subjecting it to continual trauma, with the result that the joint becomes as you see it in these X-ray pictures. This patient has very bad teeth, he had a multiple arthritis, which involved one joint after another finally settling permanently in his knee. This is in keeping with the theory I have just stated. The treatment of this condition has so far been very unsatisfactory, and if this theory be true, is wrong. Power, in his work on syphilis advises massage and passive motion in the early stages and a moderate amount of exercise. He also makes the statement that operative measures are of no avail, because, though only one joint is complained of, a careful examination will show other joints involved. This is the case with this man. If in fact these cases of Charcot joint really begin as a rheumatoid arthritis it seems to me that if we can get these cases early, absolutely immobilize the joint, remove all sources of focal infection, and place them on anti-syphilitic treatment our chances of obtaining results will be improved. This man has been on active anti-syphilitic treatment, his leg is in a cast. The greatest damage to the joint was done before he entered the hospital, and results as far as usefulness of the joint is concerned are not to be looked for.

Dr. Dunn: The case of Charcot's Joint is open for general discussion.

Dr. Conlin: Dr. Langdon, have you found any reference to Charcot's Joint as one of the earliest manifestations of tabes, coming on before the Argyll-Robertson pupils, and so forth?

Dr. Langdon: Power states that it can come on in any stage of the disease and in his experience has come on just as often early as late.

Dr. Conlin: Before nerve changes?

Dr. Langdon: Before nerve changes were apparent and before these changes might effect the joint.

Dr. Conlin: The point I was trying to make is that in the theory you have advocated, the possibility of its coming on early before nerve changes took place, it might be due to nerve changes and not infection. I remember reading somewhere of a severe periostitis very early in the infection causing the pain. In this case there is a question about what is causing the pain.

Dr. Langdon: I hadn't thought of that point, but I should like to have you consider the idea of removing foci of infection, especially if this theory proves true.

Dr. Dunn: What has been your experience, Dr. Lord?

Dr. Lord: My experience tallies with that of other men and I have nothing to contribute. I can confirm the opinion that operation is unfavorable. I had a case many years ago before we controlled the syphilitic condition as we do now in which I operated on a knee similar to this man's. I excised the capsule of the joint and did a resection but the part seemed to be in an unfavorable condition for healing and it was so long in healing that infection took place, with the usual results. Now that we can control the syphilitic infection and can determine when the syphilitic condition is negative, it seems to me we might in some early cases, where less damage is done, do an ankylosing operation of the knee and possibly get away with it. I think that would be a possibility and we might thus have occasion to change the old clinical experience, and my experience corroborating it. I think we ought to succeed under those circumstances.

Dr. Dunn: The next is a case of Tic Douloureux. Dr. Louis B. Bushman.

Dr. Louis B. Bushman: This gentleman presented himself at the hospital on March 28th suffering excruciating pain above the right frontal region extending back to the occiput. He was suffering so greatly that we were obliged to prescribe an opiate to relieve the pain, which it did, and he slept that night for the first time in six weeks. It is a case of Tic Douloureux, and dates back just about one year this time, when he had his first attack which lasted for a few weeks, and then disappeared. He had a second attack last September which lasted about the same length of time and disappeared. Seven weeks ago he had the third attack which did not disappear but became worse as time went on so when he reached the hospital on this date, March 28th, he was in a rather bad way. He was unable to sleep and as a consequence of that and the terrible pain he was suffering he lost twenty pounds—went from 140 lbs. to 120. He was scarcely able to eat on account of the act of moving the jaws bringing on these attacks whenever he attempted to eat, or if he tried to simply touch the face on that side of the head it would bring on an attack.

The history is practically negative with most findings. With the general physical examination we have a negative report. Eye, ear, nose and throat findings were negative. The blood findings negative, the Wassermann negative. Urinalysis negative. The only thing we could find which might point as a causation of the trouble was some very badly diseased teeth on the right side in the upper and lower jaws.

Up until one week ago he was getting more or less of symptomatic treatment, receiving codeine and aspirin and laxatives, and so forth, and although the pain and attacks had become less they still continued. After being here two days the pain over this part of the head (the occiput) had absolutely disappeared, probably due to the fact that it was the first rest he had had in six weeks and as a consequence of that we decided that the pain above here was simply a part of the other condition. A week ago the diseased teeth were removed. The next twenty-four hours he did not have one single attack. The second day following and the third following he had a rather hard time of it but on examining his mouth we found the gums were considerably swollen, a post-operative affair, but since then he has had very little trouble. Day before yesterday he had six attacks, three rather severe and three rather light. Yesterday he had four attacks, rather light. Today he has been free absolutely and of course very happy.

Now there are two interesting points about this condition. I intended to use a pencil to outline the field where he had this pain, but previously simply touching the face would bring on one of these attacks and I didn't want to do that this evening and have him come in here with an attack.

This seems to be a neuralgia of the fifth or trifacial nerve. Since the sensitiveness has disappeared from this side of the face the pain has been limited to just a small area about the external canthus at the angle. He has had no attack or affection below.

Now if you will notice on this diagram here, this is the supraorbital nerve and here is the infraorbital and at this point is the malar branch of the temporomalar, and there is a small branch of this nerve which extends up here to this portion. It doesn't affect the eyelid but rather deeper, and all of his attacks have been confined to this small area, no attacks above here and none below.

The thing for us to try to solve in this case is whether this case of Tic Douloureux is one of focal infection or whether it is central. From the fact that a very small part of the middle division of the fifth is involved, and from the fact that the simple extraction of these diseased teeth has seemed to relieve him we have reason to hope that it is of superficial origin, due we hope, to the bad teeth that he had. Of course, we can't say we are certain in regard to this because we know the history of so many of these cases. After you have removed some focus of infection, whatever it may be, after a length of time, may be as long as a year, the attack will return, but as I say, the fact that we have such a small area involved, and the fact that he has received such miraculous relief from removal of teeth, makes us hope we have done him some permanent good.

Dr. Dunn: This case is open for general discussion.

Dr. Prince: May I ask if the maxillary antra have been ruled out?

Dr. Bushman: Yes. The sinuses were negative. The only trouble we found was in the teeth.

Dr. Dunn: Dr. Shearer?

Dr. Wm. L. Shearer: There are many interesting nervous phenomena which are to be considered in their relationship to Tic Douloureux or Tirgeminal Neuralgia. It cannot be classed as a disease. It is the sequel of general or local disturbances. Etiologically the general causes are relatively unimportant. Neuralgia may follow influenza, diphtheria, malaria, syphilis, typhoid, etc., or any disease of an infectious nature as a result of the toxins. It may also follow certain chemical poisoning, such as lead, phosphorus, copper, arsenic, etc. It would seem from the history, (when carefully taken) that the local causes were much more significant. In this particular case which the clinician has exhibited it would seem that this were more than true. The experience of men in larger clinics tends to prove, clinically at least, that the majority of cases of neuralgia follow in the wake of many pathological pictures located in the mouth such as misfitting crowns, bridges, dentures, metal contacts, etc. We must think of the irritation from chronic abscess teeth, the sensations being carried along the nerves, whether the individual is cognizant of the fact or not. In many instances these small nerve disturbances, unnoticed, may have been going on for years. Compression may be a cause, for example, tumors, intracranial or otherwise; aneurysms, pressure from fragments of fractured bone, in removal of teeth, foreign substances like gutta percha pushed through the root-end when filling a root canal, may react as a cause. Sinus diseases also must not be overlooked. These are only a few things which may give us concern when battling with the terrible affliction, for truly an affliction it is.

The teeth are by far the most common cause of neuralgia of the second and third divisions of the Fifth Nerve. Malformation, teeth malposed, fracture and nerve tumors, and especially impacted and imbedded teeth. Pulp stones may be and are a very common cause of neuralgia. Other causes are pulpitis, resulting from decay and irritation from exposure of a pulp; from the remaining living branches of the pulp in our root canal, while the branches in another root canal of the same tooth have lost their vitality from pericementitis; from teeth in crowded areas, where pressure is made backward upon the larger nerve branches, or from teeth whose gums are markedly receded. There are so many factors to consider that an evening would be required to carefully cover the subject. I wish to leave this message with the society, namely, that too frequently, I fear, we have adhesions follow the improper technique when teeth are removed. Improper procedures are certainly to be avoided.

Dr. Dunn: Any further discussion?

It would seem from the two cases mentioned here tonight that our high sounding name "neuralgia" is making for the discards. A patient comes to us and says he has a nerve pain. We translate what he says into Latin and call it neuralgia. I have recently had three cases which have given way to removal of mouth pathology. Whether the result is to be permanent or not, I do not know; but the immediate results of removing mouth pathology were sufficiently startling to satisfy us for the time being.

Dr. Bushman is there anything you want to add?

Dr. Bushman: No, I think not.

Dr. Dunn: Dr. L. A. Dermody has several cases of bone graft to present.

Dr. L. A. Dermody: Question of bone grafting is a subject that has been discussed a great deal. The men in favor of Lane plates and wire and other metals have their side and those in favor of bone grafting have theirs. We quit using Lane plates and metal in our bone work here at St. Joseph's Hospital about five years ago, because the majority of those cases of which metal was used and a great many that came under our observation in which metal had been used were infected. We looked upon the Lane plate or other metal with disfavor because when removed at the end of six weeks or at any other time that may be thought advisable, we found an exostosis consisting of soft mushy bone tissue thrown around this metal where nature had thrown her barriers to prevent irritation. When the screws holding Lane plates are removed you will encounter a straw colored serum exuding from those screw-holes. The bone around these screw holes is soft and spongy, this makes a very admirable and favorable field for infection and more especially by the metastatic route.

At the beginning we used the intrameduallary graft but later adopted the inlay graft without any suppuration or failure in a period of five years, covering a total of about 108 cases.

The idea occurred to me that it might be well to bring a few cases tonight of the type treated with metal in which we have removed the metal and also to show a few of the type treated without metal, for discussion.

Gentlemen, with the bone graft method the graft is absorbed and goes out, you have no screws to hold it in place, it is held in place by kangaroo tendons which is soft and pliable and it usually absorbs in forty days.

Gentlemen, I wish to present to you this first case which sustained a compound fracture of the left femur some twelve months ago. A Lane plate was used and the man suffered a severe attack of tonsilitis four months ago, having a very high fever at that time, accompanied by chills and these chills were his alarm of the fact that a metastasis was taking place. The soft area around this Lane plate was a favorable spot and was where his metastasis took place. The leg was opened and drained and a large amount of pus allowed to drain from the middle one-third of his femur. He went home with a small sinus that did not heal and it is that condition that brought him back. We now opened up this sinus, curretted it out and used Dakin's solution for irrigation and you can see that it is nearly healed now.

This second case came here a year and a half ago following an automobile accident. There was a fibrous union between the two ends of that femur. We prepared to do a bone graft upon this mal-union but as we were about to make our graft the boy went into shock. We dove-tailed the two ends of this femur together and held them in place with a wire nail. We used every means to overcome this shock. The boy made an uneventful recovery. His wound healed by primary intention, good union of the bone being obtained. This boy came under my observation again this last week with an abscess as you can see on the inner aspect of the thigh, the scar of the previous operation on outer aspect of the thigh. There is his X-ray plate taken yesterday and as you can see the abscess is just opposite the end of that nail. Now that was a year and a half ago and this boy had a very sick spell two months ago of Influenza followed by pneumonia with a metastasis around that nail.

In this third case, this boy sustained a fracture of both femurs because he was run over by a load of hay. We made repeated efforts to reduce these fractures by manipulation but were finally compelled to cut down on both and do bone grafting. This boy will now walk for you. This was five months ago and as you can see he walks without any impediment. The legs being equal as to length. He walks two miles to school every day, and I forgot to say that he was bowlegged before we operated.

In the fourth case, this gentleman was struck by an automobile. He only sustained a fracture of the tibia. It was impossible to hold in place—there were a good many fragments loose in the leg. We cut down and did a bone graft. Our theory is that when you can get a primary union in your bone you can tell your patient that you have got union. The plate shows this entirely healed at the end of about three months with bone graft coming out and bone filling the entire space.

This fifth case, is a case of which this young lady suffered a severe attack of diphtheria and scarlet fever some six years ago. During this illness she developed an arthritis of the right elbow leaving it ankylosed in a position of flexion at about 45 degrees. We performed an arthoplasty on this elbow without the use of metal not even the phospherous bronze wire, but using instead plain cat gut and as you can see has full flexion at extension and is able to make her own living.

In this sixth case, is a boy brought in here about September. He stuck his arm into a corn shredder. It looked like so much dog meat when he came in. There is the X-ray picture of the way the bone looked about one month ago. This was all torn off here and here and here it was sutured together and we used Dakin's solution. The wound healed properly and at this time, gentlemen, about four months afterwards, he has that much motion, at least that much motion about 50% lateral motion in those bones. Are we going to advocate bone grafting in that arm? No. He has a serviceable arm there. He can make half a living on this side and a whole living on that side.

Do we advocate bone graft in every case of fracture? No. But we do advocate bone grafting in mal-union, fibrous union, and in non-union. The question may be asked, when is the proper time to do a bone graft. I think a great many failures are due to the fact that a great many men are in too great a hurry to open down on a fracture. In my opinion we should wait at least two weeks or until such time as the ecchymosis throughout the soft parts has been absorbed and the lymphatics are cauffer-damned. The idea that you can be more negligent in performing a bone graft than you can with a Lane plate, in my opinion is ridiculous, because if there is one place in which your asepsis must be complete and in which trauma from sponging must be limited it is in the performing of a bone graft. The question was asked me this evening, "How do you perform a bone graft on a femur? The graft is not large enough to keep those bones in position." Gentlemen, that graft is not regarded as a splint. We insert a good sized graft, by that I mean a wide graft, we use heavy kangaroo tendons and we depend upon our bone graft to act merely as a bridge across which nature builds new bone and we depend on counter-extension to hold the two ends of that bone in apposition. I am asked if I think Lane plates are going to be continued. I do not. I think the time is short when they will be discontinued entirely.

Dr. Dunn: Has anyone anything to offer on Bone Graft? Dr. Newell, what has been your experience?

Dr. Newell: I want to take advantage of this opportunity to say that Dr. Dermody's results are most gratifying. I think the results he has shown here are equal to any I have ever seen anywhere. I have had a great deal of experience in bone-grafting. I can't quite agree that all plates have to be removed, or that all Lane plates are failures. I am rather of the opinion that he has been over-enthusiastic on operations on fractures. I think we can treat more of these by closed methods. I haven't anything to say, one way or another.

Dr. Dunn: Anyone else? Dr. Powell?

Dr. Powell: Am I the only disturber around here? Well, I will sal this, I appreciate these cases of Dr. Dermody's very much. I think they show a line of progress. I am awfully glad I came here. If I felt, however, that I had the infinite touch and skill to do it I would not discard the Lane plate. In Lane's hands it is a phenomenal success, and you can't get away from it. In the first place, he has a school, a large, a fixed idea, and this, with his trained class of assistants, and a technic which is perfection--he makes no errors and he has no infections. I realize that the Lane plate in the hands of the average and everyday surgeon is a bad thing. Therefore, knowing what bone grafting will do, I say it is the safer method in the hands of the average surgeon. You can handle it, you can pretty near throw it on the floor, pick it up dip it in salt solution, and it will grow. You can put it in infected bone, plant it in an abscessed bone, and it will grow. Therefore it is much safer in the hands of the average surgeon than the Lane plate. I am not discrediting Dr. Dermody because I really think he is showing beautiful results, but I do believe the Lane plate has a place under the best technic, it will do excellent work. I believe however we are really coming to the bone graft rapidly. I think we are coming to it because it is safer, easier, less trouble, and most favorable results are being obtained.

Dr. Dunn: Dr. Jonas?

Dr. A. F. Jonas: The discussion in the operative treatment of fractures in the last ten or fifteen years has led us to believe that every broken bone should be operated. When you think over past centuries, they must have had many broken bones and they were all treated by general practitioners, who made no pretense of surgery and did no surgery, and yet with their skill they have succeeded in obtaining good functional results in a goodly percentage of cases. I am one of those surgeons who does not believe that every fracture should be operated. I believe we must keep up the conservative method of treating fractures, and that the average practitioner can produce good functional results in a large number of cases if he uses ordinary patience and skill. With the advent of the X-ray we are able to tell which cases can be reduced by manipulation and which cannot.

Our method of procedure is about as follows: We try to reduce the fracture by manipulation, put it up in splints in the position in which we think it will result in functional result. I say functional because we may have a light overlapping and yet the man may be able to perform his labor as well as ever in his life. If he is able to follow the occupation he followed prior to the accident it is a good result. And we say to our patient: We have reduced the fracture as well as can be done by hand. We think it will restore you to usefulness, but if you desire a "cabinet maker's" fit, and whatever his answer is resort to a surgical operation. And we insist that he decide what procedure he will follow, whether he wishes a merely useful union or whether he desires a "cabinet maker's" fit, and whatever his answer is it is written down on the chart and witnesses sign that statement in order to guard ourselves against future trouble.

Different surgeons have different methods and the method which is best understood and most actively practiced by him is the one for him to use. Those who have seen Lane work must say he is one of the most exact operators, so far as technic goes, who ever lived. I watched him operate and his technic is faultless. The man who uses the Lane plate must have assistants who understand his method, it must be teamwork, they must be trained in faultless aseptic technic. Now it is manifestly impossible, in the ordinary hospital, working with different assistants, nurses constantly changing, to acquire this wonderfully exact technic. The least little slip will be followed by infection because a metal substance is a dead thing; it cannot take care of any infection, and therefore, the Lane plate is not a good instrument in the hands of the average operator and should be discarded by him. A living bone transplant is a living thing. It has an inherent immunity in it, and can take care of a certain amount of infection. You can handle it and not be afraid of infection. As Dr. Powell has said—we have taken his remarks with more or less levity—but he makes the statement that a living bone, in the presence of infection will take care of itself.

To show what a bone implant will take care of, I will cite a case:

A patient of mine had been in a motorcycle accident. He suffered from a fracture of both bones of the right leg at the junction of the lower and middle third. The bone fragments were well adjusted but union did not take place. Infection occurred. Later, when he was brought to me the physician had become very much worried because he had been criticized and was in danger of litigation. He insisted that I do something right away, so in the presence of that infection I applied a Lane plate. A Lane plate of course did not hold but in the meantime I had an opportunity of educating the patient and getting him into a more tranquil frame of mind. We removed the Lane plate and curretted the bone, and washed it out with carbolic acid—that was long befor the day of the Dakin-Carrel method—but the result was a constant discharge of pus from the ends of the broken fragments. The infection continued. So one day I said to the patient, "I would like to try an experiment on you." He gave prompt assent. I did a bone grafting operation. We will imagine here the tibia (illustrating by drawing on the blackboard) here the broken end. We curetted the bone away from the end of the broken bone, swabbed it with a 95% solution of carbolic acid and then with alcohol. We made a long enough incision over the two bone ends, upward and downward beyond the seat of the fracture, then we severed the soft tissue, together with the periosteum, making a pocket on each side, then we made an incision on the right side and removed a rib and split the rib upon the flat side, then took it and placed one-half in each side in the pockets, and brought the skin flaps together as well as we could. The transplant was living bone. In three or four days we were gratified to see the infection disappear and finally these pieces of rib united with the tibia and the man is performing his work, that of a baker, standing on his feet all day.

I bring up this question to show you that bone transplant may be used by the average surgeon with an average amount of care and he has a reasonable chance to be successful. I believe it will be the method of the future.

Dr. Dunn: Dr. Lord, will you tell us your experience?

Dr. Lord: Suppuration is not a contraindication to bone grafting. I have succeeded with a full length graft in the tibia after a very bad case of osteomyelitis where it was necessary to make the incisions laterally in order to get the bone buried and covered. There was an amount of cicatricial tissue which interfered with early complete union and suppuration was finally established, and much to our astonishment this graft had taken, and altho healing was greatly prolonged and the graft was full of holes, from one end to the other, yet it gave perfect results. My experience is in accord with the statement that living bone seems to have a beneficial effect on the regeneration of the tissues.

Dr. Dermody spoke of a case in which it became necessary to use a temporary nail. Its use has been a favorite method with me. It really doesn't require a great amount of strength to hold the fragments in position if the proper extension is used. A nail will frequently answer every purpose. They are easily removed in a very short time. I have never had any after trouble from them. They are most useful and will often relieve one of the necessity of using a bone plate or bone graft.

The Lane plate I would scarcely think of using or having used on myself. I think I would'nt object to having Lane put in a plate on my femur because I would have complete confidence in his success. I would then have a limb of normal length. You are almost sure not to have that result by the ordinary methods of extension.

I think the criticisms of the Lane plate are well made. I agree with practically all that has been said. I must say however, that I would not consider the Lane plate under ordinary circumstances.

General Jones of the British Medical Corps formulated the statement that surgeons were prone to operate in inverse proportion to their operative skill, and also to their lack of patience. The Surgical Associations report American and British, formed a consensus of opinion that with skill, patience and care in handling fractures it was only necessary to operate on about five percent of the fractures.

The results here shown are most excellent, in a series of very complicated cases where operative intervention was fully indicated.

Dr. Dunn: This closes the clinical program.

Dr. Wherry again took the chair, and said: Personally and in the name and behalf of the Society I want to thank Dr. Dunn and the staff of St. Joseph's Hospital for this wonderful, splendid and entertaining program we have had.

Dr. Dunn: I want to say that the success of this meeting is largely due to the work of Dr. George Simanek and the Sisters of St. Joseph's Hospital.

Dr. Wherry: Our next meeting will probably be held at the University Club. The program will be given over entirelv to the men who have returned from overseas service, and we will have some sort of an entertainment for them.

Dr. Jonas: There is a movement on foot to organize the medical men of this state who have been in the Military Service during the late war into a national organization to be known as the Medical Veterans of the World War. The men of this state who have returned from service are requested to correspond with me. I have received a package of applications from the Secretary of the American Medical Association sent out by Dr. Hubert Work of Colorado Springs, who is temporary president, and if those who are here will speak to others we can have the organization for Nebraska completed before the meeting of the State Medical Association.

It was moved by Dr. Somers, and seconded, that a vote of thanks be extended to the Sisters for their hospitality. Dr. Wherry asked for a rising vote, and it was unanimously carried.

Meeting adjourned.

Unsatisfactory Statistics of Narcotic Drugs.

The difficulties surrounding any serious attempt to collect data on the use of habit forming drugs are well illustrated in the report, just published, of the committee appointed by the Secretary of the Treasury to investigate the traffic in narcotic drugs. This committee consisted of Representative Henry T. Rainey, Professor Reid Hunt of Harvard, Dr. A. G. DuMez of the United States Public Health Service and B. C. Keith, formerly a Deputy Commissioner of Internal Revenue. They assert that the annual per capita consumption of opium in the United States is 36 grains, against 2 grains in Germany, 3 grains in France, 1 grain in Italy, 2½ grains in Portugal, 3½ grains in Holland and less than three-fifths of a grain in Austria. The coca leaves imported into the United States each year would yield 150,000 ounces of cocaine, of which 25 per cent is said to be used in "legitimate medical or dental practice."

But there is a smugglers' trade in narcotic drugs, says the committee, "estimated to be equal to the legitimate traffic." Consequently, if the committee's conjectures are correct, there is a per capita consumption of opium in the United States of 72 grains a day and the annual illicit consumption of cocaine is 262,500 ounces, allowance being made for the 37,500 ounces of this drug legitimately consumed.

The committee asked 3,023 health officers and 1,263 chiefs of police "has drug addiction increased or decreased in the last few years?" Out of 962 officials who answered this inquiry forty-eight reported increases and 914 decreases. But:

"In virtually every instance the increases were in the largest cities, and in particular in those cities where more than the usual attention is being directed to the eradication of drug addiction."

"In towns where "more than the usual attention is being directed to the eradication of drug addiction" the authorities should and presumably do have a more nearly accurate knowledge of facts of drug addiction than is possessed by the officials of communities in which no intensive study of the subject is made. Credible deductions cannot be drawn from such answers as the committee received to this query.

Consumption of narcotics is declared to have risen from one pound a year for about 317 Americans in 1860-1869 to one pound a year for about 208 in 1910-1918. But we do not know what proportion of narcotics was consumed in the '60s in the manner now described as illicit, while we do know that there has been a great increase in the use of narcotics in medicine, surgery and dentistry since the civil war.

It is of the utmost importance that the facts concerning the use of narcotic drugs should be made available, because with the enforcement of prohibition the traffic is likely to require stricter regulation than has hitherto been imposed on it.—New York Sun, June 16, 1919.

Our Answer

Given to the Swedish Minister by Secretary Lansing is as follows: "The government of the United States feels that there is only one reply which it can make to the suggestion of the imperial Austro-Hungarian government. It has repeatedly and with like candor stated the terms upon which the United States would consider peace, and cannot and will not, entertain any proposal for a conference upon a matter concerning which it has made its position and propositions so plain." In sending that appropriate answer, President Wilson spoke out of sad experience in saying that the German government cannot be trusted, either to tell the truth or abide by its pledged word, and that negotiations must be made to somehow include the German people speaking in some reliable way. The basic truth in that ultimatum, has been established as a verity no sane man would dispute.

GENERAL NOTES.

In 1917, in spite of the world's grain shortage, America used 68,000,000 bushels or 3,000,000 pounds in breweries.

Rio De Janero is said to have one of the finest natural harbors in the world, and has the distinction of being the best electrically lighted city in South America.

The United States and Canada are providing more than one fourth of the estimated fish crop of the world. Out of a total supply of about $500,000,000 worth each year, these two countries furnish $150,000,000 worth.

Buenos Aires is the fourth large city of the Western Hemisphere. It has "the finest equipped newspaper in the world, an underground subway, and a bank which until recently, measured by its capital stock and deposits, was one of the largest in the world.

The annual convention of the American Bar Association at Cleveland passed a motion urging Congress and the State Legislature to defeat the constitutional amendments for Prohibition and Woman's Suffrage on the ground that they were not necessary. The adoption of these amendments would undoubtedly cause a great loss of business to the legal fraternity.

Private Library.
DR. C. C. HICKMAN.

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Hospital Standardization and Medical Efficiency.*

J. S. Welch, Lincoln

Radical changes are due to occur with things medical in America. For more than a decade evolutionary reform has struggled with old standards and so-called medical ethics. Laymen never have understood or interpreted the non-committal etiquet of the old-school medical gentleman. Of later years many are openly out of sympathy with our methods of advertisement, asking—"how are we to place a fair value on medical competence? There is not sufficient standardization."

In their impatience they have instituted reforms which should have been directed from a national, scientific medical or health department. I refer to the pure food laws, compulsory sanitary engineering, school inspection, etc. Occasional sporadic eruptions of standardization have come within the profession itself, such as abortion, quarantine and fee-splitting laws; a tendency toward uniform medical practice acts; standardization of medical colleges; standarization of surgical specialists by the American College of Surgeons, etc. From without the profession, reforms have come in nursing and the official registration of nurses, in workmen's compensation acts, in insurance protection for the injured as well as the sick, etc. These and many other evolutionary forces have been appearing; but please note that they have been individual and without coordinate policy, often forced by extra-professional sources. It is probable that this weakness in public policy of the scientific medical world is responsible also for the origin of christian science, osteopathy, chiropractic, and other cults. The people have not been primarily informed concerning the true and false virtues of these practices by authorities with correct medical knowledge. Is it strange, therefore, that their inability to judge of true medical competence should lead them afield? Is it strange that the semi-ignorant and others of material or mal-intent should seize upon the opportunity to gain? How natural for even our intelligent and intellectual, as well as uninformed legislators to fall prey to wrong ideas, when no co-ordinated instruction from the scientific, select, dignified, ethical medical world can reach them! In this dignified and dormant attitude we sat and watched the osteopathic disease come upon us, preferring to render curative treatment by raising their school standards year after year by tedious Legislation rather than to administer earlier prophylactic treatment. In exactly this semi-dormant condition we are as certainly awaiting socialistic activities with far worse possibilities. Investigate the present status of affairs for the medical man in England today, if you want a real eye-opener. Read C. A. Roeder's warning in the March issue of our State Medical Journal for a good resumé of the present conditions.

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*Read at the meeting of the Nebraska State Medical Association, May 19 21, 1919.

Now comes the war with the volunteer medical department, concentrating, co-ordinating and co-operating with its forces into working, teaching units of such efficiency as to throw into accentuated contrast these adverse, un-co-ordinated conditions in civil practice. Therefore I repeat, "Radical changes are due to occur in things medical in America." I do not claim a specific remedy. My hope is to stimulate, concentrate and co-ordinate all these better evolutionary forces, lest they become too socialistic and revolutionary.

My excuse for presenting such a paper is based upon membership on your hospital committee, three years' service upon your program committee, and the special interest which as a group man I take in this professional malady. Through questionnaire letters we have obtained information concerning nearly every hospital in the state, and a report is in the hands of our secretary. As Chairman of the surgical section I follow a custom in presenting a non-scientific but rather a policy topic, and I trust that upon these grounds you will accept my remarks critically and thoughtfully.

Ideal Medical Efficiency

This embraces not alone the best possible attendance upon the sick, but by preventive measures and their teaching in all detail to laymen and others. It embraces scientific research, that the now unknown may become known. It includes the medical man and his circle of activities. He must be correctly schooled, hospital or practically trained and kept efficient through his span of practice years. His compensation here enters, with all the difficult details, fair and unfair.

Then enters the hospital with varying standards, from the sick-house hotel to the competent teaching institution. Its maintenance enters, and whether justly borne as a private load or as a community load, by either taxation, church or charity means.

Our nurses are included, and the great auxillary emergency power, the wonderful Red Cross. Others might be mentioned. I can dwell but briefly upon a few, and thereby perhaps increase your receptive mood for favorable thought along this great constructive line.

Medical Standards—Old and Modern

There is in the old standard of ethics the inference (and with the laymen the belief) that every doctor is a medical gentleman par excellence if he claims to be an M. D. The smooth handler of people with a superficial play of wisdom may gain the confidence of an intelligent, scholarly layman and sell him any amount of third-rate operations and medical work as A No. 1 service. Worst of all, the gold-brick buyer may never know he has been hoodwinked. No other public servant except a physician or a hospital could so misrepresent and avoid a hearing before the Railway Commission or some other investigating tribunal. Every national and state bank has to offer a guarantee before, during and even after its active life to those who patronize it. But the title "Doctor" so returns to "Bonnie Brier Bush" dignity that many cults and sub-ordinates have found unfair profit in assuming it.

Ten years ago poor-rate medical schools and diploma factories coined doctors with real M. D. degrees, yet altogether unsafe considering the politics found in our sifting committee, the State Boards. These and many better doctors grow shockingly inferior in an isolated private practice, but having qualified by graduation once there is no further standardization. They become free lances, privileged to "stab" for life. They may remove a cataract or a prostate, treat spinal meningitis, erysipelas and retained placenta all the same day, and there is no recall or appeal. What is worse, the patient does not know she is mistreated.

What I wish to point out, first, is that we are not sufficiently well standardized in the begining by the title M. D. Next, we are not protected against invasions, through legislation and self-advertisement to the laity, by inferiorly trained tribes of chiropractors, etc. Also, that standardization of an M. D. at graduation, which is fair for patients then, may be quite unfair ten,twenty or thirty years later; and finally, that there is no pretense at the standardization of the specialties.

Some valuable reform has come through better standards in medical colleges. Let us thank the tireless workers of the Association of American Medical Colleges and emulate their example. Encourage their efforts concerning the fifth-year interne service. So cooperate that their work will not be an isolated but an integral part of organized medical efficiency propaganda. Roeder's Bureau of Ethics, as suggested in our March Journal, would serve well here. Through correct censored educational propaganda, show how all who practice the healing art should pass one and the same board with minimum standards, then they may practice what they please. What is of benefit in all branches of the healing art is truly scientific medicine and should be, and I predict will ultimately be so classed. Several states have already so ruled. Illinois has one board for all who attend the sick, including dentists, pharmacists, midwives, etc.

The A. M. A. advises as ideal

(1) A single medical licensing board in each state.

(2) One minimum educational qualification for all who are licensed to treat the sick.

(3) The same examination for all practitioners, including written, practical, laboratory and clinical tests.

And I will add that in my opinion

(4) All state boards should work under the National Board of Medical Examiners; and

(5) All men practicing a specialty be required to pass a special examination.

Let Roeder's Bureau of Standards represent the State Medical Association on the State Board of Health, and thus automatically on the National Board of Medical Examiners, the A. M. A., U. S. Army, Navy and Public Health Service. Let them establish a Dr. Brady or Dr. Evans column in the daily papers. Censor in private what should get to the people, and then get it there. Knowing this column to be the official mouthpiece of all their allied local, state and national organizations it must have weight. If this be called "advertising" by the old school and non-permissable, then call a layman—say some prominent educator—to the task.

To maintain the standard of par at graduation among practitioners for years in private practice has always been difficult. It has always been optional. Post-graduate work is always to be had. It is unstandardized, and few avail themselves of what is offered. It has been suggested that the medical schools and especially the state university medical schools, adopt a kind of university extension work reaching not only doctors, but hospitals, nurses, the Red Cross, and community health departments. This is worthy of serious though.

Group Work and Efficiency

As an ardent believer in group work I take this opportunity to urge the teaching benefits of professional cooperation in practice. In every commercial and scientific service, "cooperation" is the watchword. In medical work, private practice and belligerent competition have always submerged co-operation. In most towns where one is called in consultation this is strikingly in evidence. It is none the less so in cities, but less noticed. This is wrong. Group work affords opportunity for special work by different men. Each is a teacher to the other in every case that is studied mutually, in every group staff meeting, in every summary of filed histories, in every report of animal or laboratory experiments, in every autopsy, every book review, every medical meeting or clinic visited, etc. Each has access to and the support of better laboratories, with a single overhead expense. Medical students and recent graduates are induced to come, with newer facts and theories profitable to all.

Nor is the benefit all for the doctors. Frequent council, with joint opinion from men with special training, renders a service superior to that any individual one concerned could have given. There is a joint history assembled in the same files, accessible to all alike. Knowing that your work is or may be censored at any time kindles better effort in you, and it is well. These and other things make group work one of the best teaching forces outside of hospitals. It is in principle a base hospital, and without doubt the standardization of base hospital work is accountable for their excellent efficiency.

Recognition of Specialists

Concerning recognition of specialists, much can be said but little is standardized. There is no definite basis for recognition. Any M. D. can perform in any specialty if he has the ability or the audacity and can convince the patient. The College of Surgeons has attempted something of standardization in the surgical specialties. Not the least of its accomplishments has been to excite enmity and criticism, much as did the Association of American Medical Colleges by its early efforts to standardize medical colleges. A pleasing fact however, is that many critics who were not charter members have since sought admission. Its aims are good and should be recognized. One of its recommendations is a special license required for staff positions in standard hospitals, and this would certainly further tend to recognition of the specialist.

Standardization of Medical Schools and Interneship

Such a momentum has been established in this reform work that I can add little here. It should amalgamate itself with the rest of the efficiency plan, and doubtless will. The A. M. A. and Association of Colleges are recanvassing every state to determine standards of hospitals relative to their suitability for internship service. Nebraska has about 40 hospitals outside of those in Omaha and Lincoln and the State Institutions. In these are approximately 600 beds. Of these but few have internship qualifications. It is doubtful if we can supply our graduates with hospital service properly organized and superintended to comply with the requirements of the A. M. A. and the Association of A. M. A. Colleges. Graduates of Class A medical college are not qualified to enter the specialties and do standard work. The Government recognized this fact, and even during the emergency need of the war detained these graduates to do internship work or its equivalent, but this under guaranteed tutorship. If the government recognized this as a necessity even during war, should we during less urgent peace conditions fail to require special experience and judgment for admission to specialties? Here again group work offers to younger men a training of superior character.

Hospital Standards

When the armistice was signed the War Department was about to investigate all hospitals for the purpose of more sharply discriminating between the efficient and the poor. This was intended primarily to select those most suitable to train internes, but doubtless such an official establishment of credentials would have done much to standardize. There still remain a vast number of hospitals which are little more than hotels or boarding houses for the sick. Any such should be rated "dam poor" when classifying according to correct standards of efficiency. Pennsylvania has classified her hospitals in this manner, and publicily announced their rating. It has done wonders in increasing their standards. These ratings should be published and made more readily accessible than any bank or business-house rating, and should depend upon the following credentials:

(a) Plant construction—fireproof, safe, and accepted by inspector. Sanitary requirements fulfilled, etc., meeting at least the demands of a Class A hotel.

(b) Control under Board of Directors and a full-time efficient superintendent. The latter should have authority not only over the hospital help, but over the training school or employed nurses, the dietetician, the laboratory, the X-ray department, the management of technical training for slow convalencense and specials, the internes, the history recording, the record keeping, and the medical staff. This superintendent should be responsible to the Board of Directors, and a hospital inspector representing the state and national organization. If state laws cannot control publication of facts, exclusion of training school graduates from license to practice will.

(c) Operating pavillions with safe equipment and a licensed supervisor.

(d) A clinical laboratory maintained as an efficient working unit.

(e) An X-ray department similarly established.

(f) Accounting and filing department.

Directors

This board should not be compelled to hold of prime importance the financial end of the institution—to be forced to run to a balance. To deliver health with greatest efficiency is the first function of a hospital. It was the very watch word in war hospitals of all grades. Every hospital director should get this vision and shape other things accordingly. A financial balance is an absolute necessity, but must not be had at the expense of efficiency. We were perfectly willing to bear some of the hospital expense through Red Cross work and other donations, that the soldier boys might be efficiently cared for during the war, and reason makes it as correct to apply the rule of help to all the community hospitals during peace.

Rural Hospitals

I believe the rural districts or smaller towns can be managed on the same principles. The more intimate acquaintance may make it all the easier for the directors to finance the deficit. For Nebraska most of the hospitals will be necessarily small units. Under established standards most of them should be able to maintain efficiency, according to the class represented. The larger hospitals, perhaps the teaching institutions or some special school, must prepare suitable training for superintendents. The rural hospitals will require a nurse with technical ability in laboratory, X-ray, Dietetics, as well as superintending ability. She can work under some staff man in each department, preferably when the staff works as a group, and with growth be relieved by associate or assistant technicians. If the size of hospitals suffices it may demand an interne, but of these there will be a few. No M. D. should be allowed privileges in the hospital—which we assume is licensed after qualifying according to its class of hospitals—unless histories and records of his cases are provided the superintendent for filing. This doctor's record can then be checked on by the official hospital inspector, and his right to hospital privileges established at any time.

Larger Hospitals

In the larger hospitals the same plan on a large scale will be operative. A technician working in the clinical laboratory and X-ray department under a part-time specialist staff man; the interne, where present, acting as an intermediate member, his work graded and inspected as during his senior college year. Every staff man either presents credentials for membership or is automatically checked on by his records. Thus no neophyte could be self-taught in surgery at the operating table under the protecting wing of the hospital's reputation. Let every man qualify, and let his records show maintenance of his special ability from year to year.

To further this evolutionary work I recommend, as did Roeder in the March Journal, greater co-operation and less individualism; that we direct our efforts through a bureau composed of a committee from the state association and a paid all time man, preferably a non-medical educator; that this body make every effort to cooperate with and to represent us at the meetings of the A. M. A., the various hospital associations, the College of Surgeons, the state legislature, the state board of health and state licensing board; that they be empowered to proceed with the work of standardization of hospitals and things medical in the state, giving special attention to the efficiency of plant equipment, proper work in laboratories, training and service of nurses, technicians and staff, and that proper records be taken and filed. That they proceed with an educational propaganda directed to the various boards of hospitals, to the profession and the laymen. Special aid may be rendered in communities about to establish or re-standardize their hospitals.

Such a bureau will have an arduous task. They will confront more difficulties than standardization of medical colleges presented, because they must deal with individuals,—medical men and laymen. They will meet with the resistance of the self-satisfied worker and the hotel-like hospitals because of the prosperity they enjoy while masquerading in a coat of efficiency. But because of the tendency toward socialism and what it means for us or for the next generation of our profession, and because there is no more fundamental thing than health, I stand firmly for it. Convince the people of the truth that scientific medicine offers all there is to be offered; teach them these truths through organized instruction and with efficient standardized hospitals and the way will present itself.

Postoperative Care of Surgical Patients—A Lesson Learned From Army Methods.*

Alfred J. Brown, M. D., F. A. C. S., Omaha.

To many men who went into the service during the war the duties which they assumed and the various things which they had to learn came as a complete surprise, and in some cases as a distinct shock. Apparently the main thing which we had spent a greater or lesser number of years to acquire—our professional knowledge — was taken for granted. This statement is made with full knowledge of the remarks of Brig. Gen. Munson (1) on the subject of the professional qualifications of the temporary officers of the Medical Corps; for as General Munson states in his letter following the paper with regard to the examination to determine professional qualifications: "The examinations were conducted, except perhaps for the brief period of a very few weeks at the ouset of the war, and on a wholly insignificant number of new officers." We found, however, that the army surgeon had many more responsibilities than the care of the sick and wounded, or rather that the responsibilities of the medical man in the care of patients comprised much more than merely their professional care. The surgeon is placed in the position of being the representative of his government in the care for the welfare—moral and physical—of a large number of men, well and sick. The government assumes the responsibility of the soldier's well being, both to the soldier himself and to his family and places this responsibility squarely upon the shoulders of the medical officer and holds him strictly to account that the guaranties to the soldier and the soldier's friends and relatives be fulfilled.

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(1) Munson, Brig. Gen. E. L., M. C., U. S. A., J. A. M. A., Chicago, Ill., Vol. 72, No. 15-412-19, p 1096.

Read at a meeting of the Nebraska State Medical Association, May 19 to 21, 1919.

As in every great organization, responsibility implies an accounting of the progress in that business, and entails a great amount of clerical work including, at times, seemingly endless reports. These multifarious duties were occasionally very irksome. Some of them perhaps, might have been simplified, and some even eliminated. In the main, however, when studied in retrospect the knowledge gained by the experience opens up a broader field to the surgeon in the care of his patients in civil practice. This may possibly best be explained by considering first the responsibilities in the care of the soldier and how this results in differences in professional care, and second, how the lessons learned from these differences may be applied advantageously in the care of our patients in the private practice of civil life.

A soldier upon entering the army takes it upon himself and takes oath to uphold the honor of his government and be obedient to all superior authority. This may, and in the war did, entail the risk of his health, his future and often his life. In the majority of cases this risk was taken gladly and with full knowledge of the possible consequences. The government, in return for this allegiance of the soldier, as its part of the transaction, assumed the responsibility for his well being. This included care during both health and sickness. The proper clothing, feeding, and housing, and from a medical standpoint, protection from disease insofar as possible. If disease or injury did occur the government took care of the soldier until such time as he was able to return to his regular duties, if still in the army, or after his discharge to civil life, not as an economic liability, but as a self supporting member of the community. Viewed from this standpoint, the responsibility of the medical officer which is delegated to him by his government is enormous and much greater than the responsibility assumed by him to his patients in civil life. Furthermore, the government is responsible not only to the soldier individually for the proper fulfillment of its contract with him, but also to the relatives and friends of the soldier. As part of this responsibility it takes upon itself the task of keeping these relatives and friends informed of any serious illness or injury which may occur. The government, and secondarily the medical officer, is thus open to criticism both just and unjust, happily usually unjust. Both must, however, take cognizance of this fact and forestall it as much as possible.

The above circumstances lead to differences in professional care of the sick and wounded. These differences appear most markedly in the period of convalescence and are mostly differences in time. Referring to the fact that the soldier is to be returned to his duties as an economic asset, much greater attention is paid to convalescence. In the army the patient is sick or he is not sick. There is no middle course. He may be sick in quarters or in the hospital. In either event he is carried as a patient and so remains until such time as he is able to resume his full activity and be marked for duty. This does not mean that during his entire period of convalescence he is idle, has no duties, and thus retrogrades. Far from it. It does mean on the other hand that when physically able he becomes a member of a convalescent battalion and that his duties are prescribed for him as a part of his medical treatment and carried out under medical supervision. It means, furthermore, that these duties are both mental and physical. That hand in hand with the physical regime, whatever it may be, go measures designed to keep the mind busy and if possible educate the individual to a higher degree than before.

Consideration of the above factors has shown the great necessity of care for the wounded or sick soldier until he is placed on his feet. The government owes it to him and concedes that the debt is a just one. The problem has been met by the establishing of the various hospitals throughout the country for reeducation, reconstruction, and so to speak rehabilitation of the soldier. The details are not essential for our purpose here; sufficient to say that the needs are being recognized and are being met. As one concrete example—there have been three thousand and thirty-four major amputations in the United States Forces officially reported to March 23rd, 1919. Of these approximately 600 are arm amputations, 1708 leg amputations and the remaining 726 are of hands, feet and two or more fingers. These patients must be cared for, fitted with prosthetic appliances if necessary to earn a living, and in some cases reeducated. Not all have lost their occupation because of this mutilation, but many need reeducation. What may appear a minor injury from the surgical standpoint may entirely unfit a man for his former vocation, the loss of a finger to a pianist, for example, while in others a major loss may make little difference. It is necessary therefore to judge each case on its merits. In all cases medical advice and care is necessary. Not only must the prosthetic appliance, the artificial arm or leg, be fitted by the surgeon, but also the patient should be carefully trained in its use. The various movements necessary to its proper use should be studied in order that the patient may progress gradually from simple to more complex and difficult movement. Otherwise there will be a tendency to discouragement, which if it comes on will be very difficult to overcome later. Yet knowing all this as we do know it, how often does one see in a hospital record, a notation like this: "Compound Comminuted Fracture of the Leg; Amputation; discharged cured." And this after a few weeks' time. Such a patient cannot be discharged cured until he has been fitted properly with an artificial leg, has learned to use it to the best advantage and has once more taken his place as a self-supporting member of the community.

To carry on a work of this character—cooperation is necessary between the various members of the personnel caring for these patients. Each individual has his special field, but the inter-relation between the different fields is such that the special knowledge possessed by one group is always available for members of other groups. The patient goes through a gradual process of training under various individuals, the end in view at all times being to make that patient as nearly one hundred percent efficient as possible. This takes time and this time is freely given. The various individuals under whom the patient comes in his convalescence are, of course, interested principally in their special fields, and the patient receives the benefit of this attention to that special part. In consequence, there being many different groups, there is less danger of important points being overlooked and in consequence the whole man is cared for and not simply that part of him which shows a marked abnormality. In this way, though, as stated before, time is necessary; the result is a shortening of the time of convalescence of the individual patient by increased efficiency in treatment.

The follow-up clinics established in some of the large hospitals of the country have been of great benefit to the surgeons and physicians working in those hospitals in this direction. The time element in convalescence assumes an entirely different aspect looked at from this standpoint. One of the questions usually asked on the return questionnaire is the percentage of former earning power recovered. It is surprising to see how long it takes the average patient to recover full efficiency after a surgical operation. I am unable to give any definite statistics, but I know from personal experience that it is much longer than I had any idea of until I saw the actual results in a follow-up clinic. This time can be shortened by careful supervision and such supervision is a medical problem of the highest order. It takes patience and calls for no small amount of ingenuity at times, especially when dealing with the nervous patient.

In the army the problem is largely one of the care of patients suffering from mutilating operations involving the extremities or sense organs. In other words, war injuries. In these because of the external nature of the deformity the deprivation suffered by the patient is more apparent. Consequently it appeals much more quickly to the observer.

In civil practice this it not true to such a great extent. The greater proportion of our work is incident to disease rather than trauma. Surgery, however, at best is mutilating. Also, it may be regarded in many instances as symptomatic in its treatment. That is, the treatment of a part of the body which, though giving rise to local symptoms and requiring local measures for relief, nevertheless is but a part of a general pathologic process. Further; surgical operation means that as its result there will be a derangement of the normal physiology of the patient. For example: A patient who has had a gall bladder removed, a kidney removed, or one of the many operations performed which leaves no external trace but a scar, has just as surely suffered a derangement of his physiological functions as one who has lost a leg or an arm. It is a question whether the former patient is not really more handicapped than the latter, for his entire metabolism is changed and must adapt itself to new conditions of being. It is further important that this adaptation which must take place gradually should be carefully watched and this care should begin immediately after an operation and upon the discharge of the patient as a hospital case be continued by his physician. In the study of these cases there is a field for much research which will greatly increase our knowledge of the human economy. The processes involved in this study are many of them still obscure and are the object of considerable investigation by many observers. More light is being constantly thrown on the obscure phases. Our present knowledge is such, however, that much can be done by the physician to make the recovery of these partially incapacitated patients easier and more rapid, provided the patient be constantly kept under observation and carefully supervised.

As a concrete example of these points we may take the condition of hypertrophied prostate, suggested to me by a colleague. The patient consults the surgeon, complaining of a mechanical difficulty and desires relief of this. The surgeon knows, however, that non-malignant hypertrophy of the prostate is but a local manifestation of a general pathological process; arterio-sclerosis or better, arterio-capillary fibrosis. He can by surgical intervention, remove the cause of the mechanical blocking of the neck of the bladder. But he cannot ameliorate by any means of a surgical nature the general pathological condition which gave rise to the changes in the prostate. The patient, therefore, is in need of purely medical attention directed to his general condition, both before and after operation. This attention can be given by the medical attendant better than by the surgeon for he is more accustomed to handling this type of disease, and the surgeon is necessarily more interested in, and devotes more attention to technical matters. Further, such a patient is afflicted with a condition which though not curable, can be held in abeyance for a considerable time by proper supervision and guidance, and this must be kept up as long as he lives. The surgeon, by mechanical means has relieved the patient of a local condition which threatened his life. This local condition, however, is a part of a general constitutional condition which should be recognized and treated in order that the patient may receive the full benefit of medical science. Examples similar to the above may be multiplied and in fact there is hardly a surgical condition that will not directly or indirectly fall into such a category.

In the acute conditions met in surgery the analogy holds true. In such a case there is an apparently healthy person, suddenly stricken with disease, appendicitis, for example. The patient is operated upon a few hours after the onset and the cause removed. Without complications he is discharged cured in ten days or two weeks. The question is, is he cured? Let us consider an experiment. Take a healthy man, give him a general anaesthetic for half or three-quarters of an hour while lying on an operating table—and subsequently put him to bed and keep him there flat on his back for a week, with no exercise; changed habits of life and food, and all the other things which go with a hospital existence. Will he emerge from the experience stronger or weaker than at the beginning. The probabilities are he will be weaker. Yet he has had no operative interference, nor mental shock such as an operation gives. He will need considerable time to recover full efficiency after such an experience and to adapt himself to his normal business life. How much more will the patient who has, in addition, had the surgical and mental shock of an operation need the proper guidance to restore both his mental and physical balance?

The necessity for such observation and supervision is, to an extent, apt to be overlooked both by the professional man and the patient. All interest centers in the surgical operation which is looked upon as a sort of piece of magic which removes all troubles and suddenly transforms an invalid or desperately sick human being into one bounding in health and able to accomplish anything. This attitude is reflected in some measure in the post-operative care or rather lack of post-operative care and supervision. Even while in the hospital all attention is centered upon the local condition, that is, the operative wound. The general treatment of the patient after the primary post-operative recovery, is a matter of minor consideration. In other words the tendency is for the surgeon

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to treat the surgical condition only and not the whole patient. One result of this course is seen in the large number of cases of postoperative constipation with which we are all familiar.

The lesson thus taught by a comparison of army and civilian methods seems to point as a remedy to closer cooperation between surgeon and physician in the care of the surgical patient. In the army personal contact between the two is rarely possible and this cooperation is carried on by means of the written record of the patient which, except in times of great stress, accompanies the patient and is available for reference. The surgeon or internist to whom the patient is assigned thus has for his guidance the record of the case from the beginning. In civilian practice there is usually a hiatus which exists from the time of operation until the patient returns to his medical adviser, if he does return at all. The medical adviser should, if possible, be present at operations upon his patient in order that he shall know exactly the pathological condition found and thus be able to guide the future treatment with the advantage of this complete knowledge. If this is not practicable, he should receive a complete report of the pathologic conditions found at operation together with the procedure instituted in order that he may be able intelligently to guide the further treatment. In many instances this may appear unnecessary, but small things which escape the notice of one individual may prove of great value to another, particularly when observed from different viewpoints, such as that of the surgeon and internist. The important fact that the patient is in need of further advice and supervision should be impressed upon him with emphasis by the surgeon. It should be explained that the surgical procedure is not a cure all and that it will take a considerable time to regain full efficiency, and that this time will be shortened by intelligent supervision and guidance by his physician.

The method of close observation and guidance of convalescence has worked well in army patients. The patients are safeguarded and their final return to full duty is hastened, with less danger to their future welfare. An approximation of, or even improvement on, this method, which should eventually come by reason of closer association of patient, physician, and surgeon, will, it is believed, result in great benefit to all concerned, which may be summed up as follows: 1. To the patient by shortening the time of convalescence and safeguarding him from errors which he may commit through ignorance. 2. To the internist and surgeon by increased knowledge and experience gained through more closely following their cases to their final result. 3. To medical science by the greater number of final results available for study and consequently more complete knowledge of the true value of various surgical procedures.

DISCUSSIONS.

In the absence of Dr. LeRoy Crummer, who was to have opened the discussion of Dr. Brown's paper, the Chair announced the paper was open for general discussion.

Dr. Inez C. Philbrick, Lincoln: The paper of Dr. Brown was exceedingly interesting to me, especially in the suggestion it gave of the larger field which the medical man entered when he entered the employ of the Government. Dr. Brown made clear that the work of the army surgeon included not only the remedial care of the patient, but as well he had large duties as regards the prevention of disease among the soldiers. In other words, the army surgeon and physician has a State responsibility. He is salaried by the State. He is responsible to the Government, and he is also responsible to the patient as a citizen of that State. He is not only responsible as we private physicians are to the patient during his temporary illness, but he is responsible for the return of that patient to his work as a member, a citizen, of the State. Dr. Brown stated that in order to carry out this responsibility to the patient on the part of the army surgeon, full co-operation among all members of the medical staff was necessary.

Now I affirm, as I have for many years and shall continue to affirm, that such co-operation is impossible among the members of the privately-feed profession in any community. We are paid by the patient to restore him to health, in a certain sense. We are not paid by the community to prevent disease in that patient; or, as Dr. Brown said, to restore him to complete convalescence.

I surely hope and surely think the experience of so many thousand men in the army who served in the employ of the Government, salaried by the Government, their experience bringing to them a sense of their large responsibility—far larger than they thought was possible in civil practice—I am sure this experience is going to hasten twenty-five years the coming of State Medicine, when we shall all be paid to prevent disease, not to patch up partially the ills of private individuals.

Dr. Patton: Major Brown has given us a splendid resume of the work that is being done for the wounded men, especially along the line of reconstruction and re-training. I think we are all greatly impressed by the plans which were being carried out for the care of the men not only in the special reconstruction hospitals but also in the overseas centers. This was especially true of the men who had sustained ocular injuries.

Colonel Greenwood, who was the chief consultant for ophthalmology in the A. E. F., had secured the services of Lieutenant Steim who had been for years executive secretary of the Pennsylvania society for the Prevention of Blindness. It was the duty of Lt. Steim to go from center to center and look over the needs of the blinded men and instruct the officers in charge in the early training of the blind. Later he accompanied these men to the reconstruction center at Savenay and later went with them as they were sent in larger groups to the States.

The plan of training was very simple and something we could easily carry out for our own blind cases. The men totally blind were usually provided first with an especially constructed watch on which they could tell the time of day. This was a great comfort to them and they rapidly learned to make out the time. They were then taught simple games which not only relieved the tedium but also taught them to gain preceptions through the tactile sense. They were then taught to operate a typewriter and were able in this way to write home, at the same time occupying the time which otherwise might be wearisome. Very early they began teaching them the Braille or some of its modifications so that they could read.

One interesting thing was that as soon as a man learned something himself, he immediately began to teach it to one of the other fellows. The blind patients were very energetic, and it has been said that the blind department was the jolliest section in the hospital.

The lesson for us is this. While there were comparatively few men blinded in France, there are annually many hundreds of adults in this country who become totally blind either from accident or disease. These adults frequently do not care to go to a blind school, but at the same time, they could systematically be taught a great many things that would make their lives much more useful and contented, and whether we have time to teach our blind patients these things or not, we should at least inform ourselves so that we can instruct relatives and those responsible and at least see that the patient is so instructed.

Dr. W. L. Ross, Omaha: I want to speak of one phase of Dr. Brown's paper, on the follow-up system of post-operative care of patients. Such a system, is of course employed to find out what a particular injury or disease has done, or is doing, to a particular individual, that we, as medical men, may learn the better to judge what end results we may expect.

Such a system can, however, be of practically as great a value to the patient, himself. We know how greatly individuals vary in their reaction to injury or disease. One man may undergo an amputation, and still not suffer a great deal of shock to his system, while another, to all outward appearances his equal physically, may be completely undone for a long period of time.

Because we cannot tell beforehand, which man is going to react well, and which poorly, we should therefore carefully follow up all of our cases. We will then find those who are not progressing as they should, and will be able to help them along, when without a follow-up system, we might have missed them, as they, themselves, would not realize the gravity of their slow progress or lack of it.

Dr. Brown spoke of this system as applied in the military service. I am convinced that it is just as necessary, and almost as practical in civil life, if we but give our attention to it, and if carried out, with every patient, will no doubt be of vast importance to every patient that is cared for.

The Evolution of the Suprapubic Operation of Prostatectomy, and Its Latest Status.*

John E. Summers, M. D., Omaha.

To those particularly interested in a historical review of the operative treatment of the hypertrophied prostate, the best references with which the writer is familiar are the writings of Deaver of Philadelphia and Watson of Boston. Interesting and instructive as this review is, it will only be allowable in the short time allotted, to present my own knowledge of the subject based upon personal experience.

Dating back many years, nearly 300, attempts have been made to remove or tunnel through masses or bridges at the neck of the bladder, which obstructed the out-flow of urine. Most of the earlier attacks were made through incisions in the perineum—the later ones by means of instruments passed through the urethra.

It is to McGill of Leeds, Eng., and Belfield of Chicago, that we owe the initial logical efforts towards the removal of the obstructing prostate through a suprapubic incision into the bladder—this was in 1887. My own personal practical knowledge of the so-called McGill operation began early — in November, 1890, when few operations had been done.

Although numerous surgeons had attempted the removal of the prostate in part, prior to the advent of the advocacy in 1887 of the McGill technique, Watson states that prior to 1888, when he published his own views chiefly advocating the perineal route for the removal of the prostate, he was unable "to find more than twenty-two cases in which prostatectomy had been done."

On November 15th, 1890, a prominent citizen of Omaha, a patient of Dr. W. O. Bridges, was operated by the late Dr. Bryson of St. Louis, he having been selected by Boston surgeons to do the operation because of his acknowledged superior skill in the performance of prostatectomy by the McGill technique. I acted as Dr. Bryson's assistant. A suprapubic cystotomy was done, the patient turned towards one side, and guided by the index finger in the cystotomy incision, enough of the prostate was removed by means of scissors, to overcome the obstruction in the prostatic urethra. A suprapubic tube-drain was introduced. The operation was a bloody one. Except in a general way there had been no special preparation for the operation. The patient died in about one week from pneumonia, evidently septic in type. The operation did not appeal to me—it was incomplete and unsurgical.

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*Read at the Nebraska State Medical Association Convention, May 19, 20, 21, 1919.

"As time went on the technique of the suprapubic operation improved, numerous operators added their modifications until today it is a fairly safe procedure determined upon in accordance with the apparent demands of the particular case." This opinion was written by me in a paper published in 1914, entitled "The Preparation of Advanced Cases of Prostatism for Surgical Treatment," and it holds absolutely good to-day,only emphasized by the fact that we have a more scientific knowledge of the proper preparation of the patient. I am, however, of the opinion that we are slipping in two directions: first, we are taking too much time to do the operative work itself, in the supposed increased resistance of our patients, acquired by preparative measures; second, in our ever-increasing leaning upon the laboratory technician we are apt to dull the clinical sense in its appreciation of the general make-up and resistance of the individual patient—in other words, to build a prognosis upon local and laboratory constitutional findings at the expense of a general "taking in" of the particular patient.

While on this subject of prognosis I cannot resist the temptation to quote from the writings of F. Cathelin, the distinguished French Urologist, and let me say in passing, that in my judgment, French physicians and surgeons have always been in the van as clinical teachers, and I have been a partial student to their writings. Cathelin says, "Although in reality the clinical prognosis of a given affection differs from its operative prognosis it is easy to understand that there is a certain affinity between the two and that in any case the two are often very difficult to establish. Operation is not everything, for, after all, it is only a mechanical act; but it is much more interesting and useful to know in advance whether the intervention is likely to prove successful and within what limits it is justified, just as it is necessary for an engineer to know how to prognosticate the quality and properties of a block of steel."

"For that matter, although patients may a la rigeur pardon an error of diagnosis or even of technique, they will rarely tolerate an error of prognosis.

"This prognosis is itself only the reply to the pressing, anxious question asked by the family, viz: "Will he recover?"

"Now there is a calculation of possibilities based, as in pure arithmetic, on a series of factors and contingencies of which the mutual co-ordination and subordination enable us to arrive at a fairly trustworthy approximation.

"This view of the prognosis is therefore of capital importance in all affections of whatever nature but in surgical diseases of the urinary apparatus it may be said to acquire a precision unknown elsewhere consequent upon a richness of methods carried to a high degree of perfection."

After my unfortunate and disappointing experience with the McGill operation in 1890, I tried it from time to time with varying success but never with confidence. The perineal operation of Watson, or as modified somewhat by different men, was the one of choice in this country from 1890, when my friend, Dr. Goodfellow of San Francisco began to remove the prostate by finger enucleation (under spinal anaesthesia), until about 1900. The combined perineal and suprapubic operations were added at times as useful procedures.

Fuller, in 1895, published his technique, reporting several cases of suprapubic enucleation of all of the prostate; he added a perineal drainage incision. This operation was the beginning of today's suprapubic operation as we know it. There was at that period little preparatory treatment of the patients for operation.

From 1900 to 1902, Murphy and Ferguson of Chicago, and Parker Syms of New York invented instruments to draw the enlarged gland towards the surface through a perineal incision so that it could be enucleated under direct vision. In 1903 I published a paper, "The Surgical Aspect of Prostatic Hypertrophy," reporting five perineal prostatectomies. Prior to this I had for years been using suprapubic drainage as a palliative measure doing a few suprapubic operations upon the prostate itself and having had the usual experience in the medical treatment of advanced cases. In this paper I noted that Murphy, in a paper published less than one year before had only operated eight cases. Ferguson and Syms only a few by their technique of drawing down the prostate well into the perineal incision before its enucleation. In 1903 Young of Baltimore, became an advocate of the open or dissecting operation, modifying the technique of the French surgeon Proust. In Young's hands this has remained a successful operation with several advantages. For some reason very few urologists or general surgeons have followed Young's technique and he seems to have acquired a monopoly in that particular type of the work.

Although we must give credit to the late Eugene Fuller of New York as the originator of the suprapubic enucleation of the hypertrophied prostate, yet it is to Freyer of London belongs the greater credit of developing the operation to its present position. Freyer claimed originality in the operation, commencing in December, 1900. Since then he has reported large series of cases with remarkable results. In 1906, in a monograph on "Enlargement of the Prostate" his views expressed are based upon an experience of 312 cases, and I want to use this series of cases and the rapid type of operative technique used by Freyer, in comparison with the advantageous preparatory treatment of today and the growing tendency to use a slower type of operative technique.

In summing up the results of his 312 operations, the ages of the patients vary from 49 to 87 years, the average age being 68 years. Freyer says, "The vast majority of the patients had been entirely dependent on the catheter for periods varying up to twenty-four years. Nearly all of them were in broken health and many were apparently moribund when the operation was undertaken. The majority of them were, indeed, reduced to such a wretched condition that existence was simply unendurable. Few of them were free from one or more grave complications, such as cystitis, stone in the bladder, pyelitis, kidney disease, diabetes, heart disease, thoracic aneurism, chronic bronchitis, paralysis, single, double or even treble hernia, haemorrhoids, and in a few instances cancer of some other organ than the prostate. Such, then, were the unpromising conditions under which the operation was undertaken.

In connection with these 312 operations there were 22 deaths, the remaining 290 being successful. And when he speaks of success he means complete success, the patients regaining the power of retaining and passing urine naturally without the aid of a catheter as well as they ever did. There are no half-measures about this operation. The patient can be assured beforehand that if he is prepared to accept the comparatively small risk attaching thereto, he can, with absolute certainty, look forward to a complete cure. In no instance did the patient fail to regain the power of voluntary micturition without the aid of a catheter. There has been no instance of relapse of the symptoms; on the contrary, lapse of time only seems to consolidate the cure. In no case has there been contraction or instance of a permanent fistula remaining. In very few instances have distinct symptoms of septicaemia supervened.

Considering that in nearly all of the cases the urine was septic, and in many putrid, before the operation, this comparative absence of septicaemia is remarkable. To what are we to attribute this immunity? No matter how carefully the bladder is irrigated, it is quite impossible to keep the wound thoroughly aseptic. It must be remembered that a very large proportion of aged men succumb to septicemia on entering what is commonly termed "catheter life". Probably those that survive become more or less immune by gradual absorption of toxins from the septic urine that prevails sooner or later in all cases of habitual employment of the catheter.

The causes of death of Freyer's cases were as follows:

Seven from uraemic symptoms, at intervals varying from three to thirty-nine days after operation.

Three from heart failure, one six hours, one three days and one the twelfth day after operation.

Two from septicaemia, thirteen and thirty-five days respectively, after operation.

Two from mania, after the wounds were practically healed.

Two from liver disease, one fifteen, and the other nineteen days after operation.

One from shock, seven hours after operation.

One from exhaustion thirty-three days after operation.

One from heat-stroke, on the tenth day.

One from pneumonia, seven days after operation.

One from acute bronchitis, thirty hours after operation.

One suddenly, on the fifth day, from pulmonary embolism.

Compare these statistics with those latest published from the Rochester Clinic when many days, weeks or even months are properly employed in the getting ready of patients for the suprapubic removal of the hypertrophied prostate—wholly or in great part relieving the complications before operation is undertaken.

Now, what are the results? Excluding four cancer cases, eighty four patients operated with a mortality of 3¾%; half as many deaths in a one-third smaller series of well-prepared—we might say, selected, patients.

Freyer's patients did not have the advantage of the knowledge of preparation now available—his operations were done between the years 1901 and 1906.

What was the reason for Freyer's remarkable success—the favorable prognosis he was able to hold out?

There is only one explanation—the rapidity with which he was able to carry out his operative technique. He says, "The essential portion of the operation—that during which profound anaesthesia is necessary—is covered by the time that elapses between commencing the suprapubic cystotomy and the delivery of the prostate from the bladder. It will have been observed that with increased experience has come increased rapidity of execution. In the early days of the operation it was not unusual for this period to extend to twenty minutes or half an hour, or even more, whilst latterly in ordinary cases this period is covered by from two to five minutes, and in difficult cases by from eight to twelve minutes. There can be no doubt that rapidity in operating is of vital importance in an operation of this kind, confined as it is to persons of advanced age, thus shortening the period during which full anaesthesia is necessary, minimizing the loss of blood, and obviating shock."

The growing tendency to-day is to expose the prostate by a wide retraction of the bladder incision—using a specially made self-retaining retractor for this purpose. A .5% novocain solution is injected into the prostatic capsule. This seems to help in several ways: (a) It almost entirely controls bleeding during the operation of enucleation, so that the field of operation is quite dry. (b) It helps free the enlargement from the capsule and in this manner acts in the enucleation. (c) It produces an anoci-association and thus helps to avoid shock. Allen of New Orleans and Lower of Cleveland emphasize this last advantage as much enhanced by doing the whole procedure under local anaesthesia. The deliberation under which the prostate is removed by the advocates of this "wide open" technique adds too much to the length of the procedure, and except in very favorable cases is apparently not a judicious practice. The practice of Freyer and his followers will, in the hands of the general surgeon, be a safer one—it is so rapid of performance. I, myself, have seldom taken longer than from five to twelve minutes to do the enucleation. The methods of control of hemorrhage are now so well recognized, and the drainage and other post-operative treatment in all cases being the same, I believe that Freyer's technique of quick enucleation, or that of some other slight modification such as Squier's, will in the hands of general surgeons who do the vast majority of these operations, produce the best results.

Discussion.

Dr. C. A. Roeder, Omaha.—I found an interesting historical review of prostatectomy by Young, in Keen's Surgery. At a meeting in Paris, 1894, Eugene Fuller of New York presented a refined technique of suprapubic prostatectomy which remains a standard today. Young states that Freyer attended this meeting and did not publish his technique which was similar to Fuller's until two years later. It appears that an American again deserves the credit for developing an improved technique. The term prostatectomy is a misnomer, as we do not remove the prostate except in the small scirrhous type. We shell out the adenomatous hypertrophies and leave the capsule which contains prostatic tissue. In this most prevalent type we really perform an adenectomy of the prostate.

Judd and Young are the masters of the suprapubic and perineal routes and their statistics lead all others. Their results are almost parallel, which may make it difficult to decide which is preferable. No one does a perineal operation like Young because it is difficult and he has spent considerable time developing his technique. Although Judd and Young perhaps do more prostatectomies than any other two operators, we must remember they perhaps perform only about one per cent of all in this country. Then the remaining 99% is done by the less skilled surgeon and in that case the suprapubic should predominate as it is less difficult. After going through the abdominal wall, which requires only minor technic, we have really only two layers over the prostate, the upper and lower layers of the bladder. The recto-vesical fascia divides into three layers, two layers passing below the prostate and uniting with an obliterated pouch of peritoneum forming what is known as Denonvillers' fascia. One layer passes above the prostate and carries the peri-prostatic plexus of veins. It is from this layer we get hemorrhage and it is venous. The arteries are small and only occasionally cause moderate bleeding. In regard to emergency prostatectomy, it is a criminal assault. The greatest evolution in prostatectomy today no matter which route is used, is the preparation of the patient. It requires the services of the surgeon, chemist and internist, as these cases belong to the students of and not the "merchants of medicine."

Deaths following this operation are due to (1) hemorrhage, (2) infection, (3) urinary suppression and (4) embolism. Hemorrhage represents the greatest danger and should be guarded against as well as possible. Judd uses more care than any other surgeon and takes 20 to 30 minutes. He uses self-retaining retractors of his own design and he has developed the technic of injecting one-half percent novocain with adrenalin into the capsule. This not only helps to stop bleeding but also gives one a line of cleavage. By cutting through this infiltrated layer one easily exposes the hypertrophied portion and the remainder of the operation is usually easy. Judd sews up carefully this prostatic capsule to control bleeding.

Freyer was forced to operate rapidly because he had not the advantage of a preparation which greatly lessons the risk. Nowadays care should never be sacrificed for speed.

Dr. B. B. Davis, Omaha.—This is one of the subjects in which we all seem interested, and it is one of the things in which a great deal has been gained in the last four or five years, so far as doing good work is concerned.

I can fully agree with the writer of the paper and with Dr. Roeder that for the general surgeon who hasn't been paying any great attention to the prostate as a specialty, the suprapubic operation is undoubtedly preferable.

I suppose I am like a good many of the rest of you: I went through the mill in the early days and did the Good-fellow operation for a number of years. I was very much surprised that all those patients did not die. It seems as though they ought to, the way we took those prostrates out. I was apologizing to myself for doing such unsurgical work. But the results were amazing, considering how unscientific the work was.

We all take off our hats to Young for his splendid work; but for the general all-around surgeon, the suprapubic is the one of choice.

The point made that we should not take a case of prostrate and treat it as an emergency operation I want to emphasize with all the force I have. I believe more lives have been sacrificed in this way than in any other. This idea we must get in and cut out one of these in order to save the patient's life is all wrong. We should never operate on one of these cases who is septic at the time. The patient should be put in the best possible condition. If the only way to do that is to do a quick buttonhole operation of the bladder and get drainage in that way, all well and good. I have had a number of cases that would have died if I hadn't done that. We did a suprapubic drainage and kept the patient well drained, and finally all the symptoms would clear up, and we could get the patient's condition right, and go ahead and do the operation. It should be done with due regard to not doing too much violence in the base of the bladder. In most of my cases I did a quicker operation, and probably did not leave the patient as well as it should be done. At the same time, in the last few years I have had practically no serious hemorrhages from these cases.

Dr. A. F. Jonas, Omaha.—To me there is no more interesting chapter in surgery than the operations on the prostate. I began "tinkering with the prostate" when we knew only of perineal sections for the purpose of drainage. My first operation was done in 1885, which was a perineal section—the introduction of a tube which was retained in the neck of the bladder for three weeks, the hope being the presence of the tube in the prostate urethra might create a tunnel through which the patient might urinate. The patient was seen three years later and was still able to pass urine without assistance of the catheter.

From that time on, I think I have tried almost every form of operation that has been suggested. For a time Dr. Summers and I stood opposed to each other. I believed in the perineal route. We both thought we had the best of the argument, and each one felt more convinced of this contention than before the discussion began.

I finally settled down to the Goodfellow operation, which fifteen years ago was one of the best. I gradually got away from that, and have given up the perineal route except for special forms, and am now doing the suprapubic operation. Three-fourths of my prostates are enucleated from above by the finger.

Whether Freyer deserves the credit for priority in this operation or not, it is due to his advocacy of it that has made it popular. I have seen him operate. To see him do this work makes you think of a musician. He has a knack and twist about his index finger I have never seen equalled by anybody. The only instrument he uses is a knife. The bladder is filled with a fluid with an old-fashioned piston syringe. When well filled, he makes his incision through the skin and through the fasciae over the recti muscles. He separates the recti, places his index finger upon the bladder, the assistant makes another thrust with the piston of the syringe, which creates an impulse in the bladder fundus and lets him feel where the bladder is. He then thrusts the knife into the bladder, introduces his right index finger, and in half a minute or two minutes, the prostate is enucleated. I saw him do four cases one afternoon in St. Joseph's Hospital in London. He was followed by his assistant who did three, and the whole clinic was over in an hour and a half.

There is a certain class of cases which come to us which have resorted to a catheter for days and weeks, and have spent the great part of their days and nights in trying to get rid of their bladder contents, becoming reduced in strength owing to loss of sleep. A man with incompletely emptied bladder cannot sleep well. These men come to us when weak and exhausted. I think there is only one thing to do, and this is to make a supra-pubic cystotomy. Drain his bladder until he has caught up on sleep so his recuperative factors of safety are materially increased. As time goes on I am following that procedure more. Sometimes I have been able only to make a puncture with the trocar, relieving the bladder contents, and then introduce a catheter through the trochar instituting permanent drainage. I have done this where men were at home and absolutely unable to evacuate the bladder, and later were taken to a hospital for the purpose of a more complete examination and preparation for an operation. The factors of safety are sometimes increased 50 per cent by this procedure. Meanwhile we subject him to various tests as to kidney function and blood count and urine contents, and dry to enhance his factor of safety; and thus we guide to recovery a great many cases we used to lose.

Dr. C. R. Kennedy, Omaha.—It seems to me in the matter of prostatectomy, too much is said about the merits of the suprapubic and perineal operations, and not enough about the operation as suited to the individual patient. The patient does not have the study he should have before operation. To subject a man with a small, hard prostate to a supra-pubic enucleation is dangerous. To attempt to remove a large prostate by a perineal operation is dangerous. Unless this individual is studied as to stones, foreign bodies, diverticulae, etc., we do not know what we are going to do with the patient until we open his bladder. We have found at the University Hospital at Omaha that about two-thirds of the operations are not properly done, and one third are reoperative cases. So that the matter of taking out a prostate according to a fixed technique is not best for the patient. As we handle our patients at the University hospital, we attempt the study of the patient as to the general condition, and the cystoscope shows us whether he has a hard firm prostate, large middle lobe prostatic bar or calculi. Since starting the hospital, we have had twenty-two cases, and no mortality. These are not selected cases. Out of this number, about nineteen were suprapubic and three perineal, which was our judgment as to those which we considered proper for the two methods.

So that I think the safety of these prostatectomies lies not in the speed of the operation, and not alone in the technique of the operation but in selecting the operation to suit the prostate in each individual. If these patients are investigated and we know where the obstruction is, we can save the patients, whereas an extensive suprapubic operation is a failure, if it does not relieve the point of obstruction.

As to the method of exposure, I think hemorrhage is due to getting outside the line of cleavage and not seeing that the hemorrhage is stopped before you close. I think massage of the prostatic capsule has a great deal to do with stopping hemorrhage.

In regard to suture of the cavity left by enucleation. I have always feared infection as I lost one case as a result of infection of the pelvis and later septicaemia from what I considered as inadequate drainage of this pocket.

The sooner we get to suiting the operation to the patient rather than the patient to the operation, the sooner will our mortality improve.

Dr. W. L. Ross, Omaha.—I want to mention an operation which I did on a patient who was suffering with an enlarged prostate, together with its usual complications. No anesthetic was given, and no knife was used. I simply used the X-ray.

With a Coolidge Tube, backing up a 9-inch Spark Gap, using 4 milliamperes of current, and filtering the rays through 4 millimeters of aluminum, I rayed the gland for 10 minutes at a sitting, repeating the sittings as often as seemed necessary,. until the enlarged prostate was greatly atrophied. The results were very satisfactory to both patient and operator.

I was emboldened to try this method of treatment, from the good results obtained in treating uterine fibroids with the X-ray.

I believe we have, in the use of the X-ray, a method of treatment that will prove highly successful in this class of cases.

Dr. H. B. Boyden, Grand Island.—I would like to emphasize the importance of spinal anaesthesia in this. Your cases of prostatectomy are usually elderly men and have bronchial conditions or myocardial conditions, and cannot bear shock well. I think spinal anaesthesia is quite an important asset to the operation of prostatectomy.

In illustrating the method of controlling hemorrhage by novocain and adrenalin injection of the prostate, I think the contrast between the hemorrhage you frequently get under the general method of tonsilectomy compared with local will illustrate that.

Furthermore, in the embryological development of the prostate gland there are two posterior lobes. Carcinoma begins in the lobe nearest the perineum. So that the anatomical approach for a prostatectomy of a carcinomatous type would be the perineal route, where with a hypertrophied prostate the suprapubic route would be the method of choice.

Dr. A. I. MacKinnon, Lincoln.—I am glad the Omaha surgeons are waking up to the use of the suprapubic method. Ten or twelve years ago I read a paper advocating the suprapubic method. Our surgical friends in Omaha certainly did lambast me strong! I could not come back very vigorously.

Quoting Judd of Rochester, he reported before the American Medical Association one hundred and fifty operations some years ago, suprapubic. The length of time it took the fistula to close was sixty days. He has evidently improved his technique since that time.

Dr. Jonas referred to Freyer's method. He can't take out the prostate in the method he describes in Keen's Surgery and do it in thirty minutes. According to the method illustrated in their Year Book, I doubt if Judd can do it in thirty minutes.

My observation has been the length of time for general anaesthesia was the deciding factor in the result. We remove the prostate because it obstructs the bladder. A patient of that type like one suffering from any other toxic poison, is a poor subject for general anaesthesia, and it is the deciding factor, in my estimation.

In 1907 I reported a method of operating on a prostate which eliminates the anaesthesia, and what Dr. Roeder says about the hemorrhage being the cause of mortality. I have tried a good many other methods and still go back to the old method used at that time. I will make a little diagram. (Illustrates on blackboard.)

In Judd's report of one hundred and fifty cases where the fistula did not close for sixty days, I call attention to the fact that the proper place to open the bladder was above. With the technique devised by Freyer you could enucleate the bladder if you were not too ultra-scientific. The only ones difficult to remove were the hard prostates. If you slide a pair of scissors on your fingers, you can slip it out inside a short time. After you have the prostate out, all you have to do is to put some iodoform gauze down there and pack it in with your finger. Pull the gauze out through the bladder, and there is nothing to do but put him to bed. After six or seven days, remove the gauze and irrigate the bladder and the patient is well. The gauze eliminates another bugbear. It will prevent hemorrhage. I have never seen a case of hemorrhage following it. If you want rapid technique, you can't beat that.

Dr. Max Emmert, Omaha.—I want to emphasize the importance of preparation of the patient. The outcome of these cases is dependent on two factors:

The preparation of the patient, and his resistance. Those of you familiar with Young's work, who have watched his preparation, will appreciate the fact he lays emphasis upon the preparation of the patient. He seldom operates upon a patient under two weeks after the patient enters the hospital, and from that time to two months.

Another factor in the prognosis for these old men is whether or not they have had a coma or acidosis. Those who have suffered from this complication are very poor risks at best.

The method of technique is an individual matter depending upon the kind of operation which the surgeon is best fitted to do.

Chairman Welch: We have with us a man who all his life has been a Nebraskan, and who for years has been with Dr. Young, the man much quoted this morning. I refer to Dr. Edwin Davis, of Omaha. While He has not technically the right to the floor, I am going to ask Dr. Davis to talk to us upon Dr. Summers' paper, unless I hear a dissenting voice. (Applause).

Dr. Edwin Davis, Omaha.—I had no expectation of being called on this morning, and have made no preparation.

I notice a large part of the discussion has been devoted to a consideration of the relative merits of the supra-pubic and perineal routes of approach. This always has been a subject of discussion, and I presume it always will be.

I do not suppose there will be a dissenting voice to the statement that if every surgeon had the ability to make the clean perineal dissection Young does, there would not be so much criticism of this method. There are certain advantages which cannot be overlooked. The factor of not having to operate in the dark: of being able to make a clean dissection and see what you are doing; of being able to pack the cavity and control the bleeding, are points worthy of mention. The packing after the perineal route is solidly held. After the perineal operation I do not believe I am exaggerating when I say the shock is certainly less. There is less of the greatest danger of all—the question of post operative toxemia and intestinal paralysis—the greatest cause of mortality next to hemorrhage. Young's statistics as to mortality will speak for themselves. He has been able to report a series of about one-hundred and fifty consecutive cases without a death.

Another point: The small, hard fibrous prostate which by the suprapubic route is approached with so much difficulty, may be readily handled by the perineal route by a combined blunt and sharp dissection; whereas this type cannot be readily shelled out with the finger.

On the other hand, the anatomy of the perineum is relatively intricate compared to that of the suprapubic approach, and the average surgeon is not familiar with it. In a consideration of the decision of the type of operation to be made, I should say certainly neither route can be decided on for all cases, and in the decision, a consideration of the individual patient should be made, and also of the training and preference of the individual surgeon.

Dr. John E. Summers said in closing: I was afraid if I read a paper entitled "The Evolution of the Suprapubic Operation of Prostatectomy, and Its Latest Status," somebody would talk about the perineal route, and the advantages and disadvantages of one over the other. I only spoke of the perineal route from a historical standpoint. I have opinions about the perineal route, and would certainly prefer it in individual cases to the suprapubic.

I notice in the last report from Dr. Judd's clinic that he is now, after enucleating the prostate and suturing the capsule to the mucous membrane of the bladder, packing the cavity with iodoform gauze. I do not know why he does that except as an additional aid to the suture in the control of hemorrhage.

There are numerous methods of controlling hemorrhage, among them we have rubber bags which are pulled down into the place where the prostate was.

I am a great admirer of Dr. Judd, and his work in this line is not surpassed by any other surgeon in America. My paper was based upon my experience as a general surgeon.

I tried to emphasize that the preparation of the patient is so very important; I tried to show where Freyer was able to have a mortality of only 7% in over three hundred cases without having prepared his patients, that the result was due to his operative technique—his thorough, rapid work. If, in addition to that type of work, you can prepare your patient properly, you have done the important thing. If you can get your patient in good condition for the operation and then do a rapid, thorough operation, you have done your whole duty to your patient.

In greatly skilled hands, perhaps other methods are mare desirable. There is nothing so good as Young's method—in the hands of Young. It is a difficult thing to do as Young does it. I never learned the technique satisfactorily. It is not because we have not studied the anatomy of the perineum; this was first studied and worked out and operated upon by the general surgeons for stone in the bladder. Whatever the urologists know about the surgical anatomy of the perineum today comes from what they have learned from the general surgeon.

Diverticulitis and Peri-diverticulitis.*

Max Emmert, Omaha

In the consideration of inflammatory diseases of the large colon, there are two anatomical factors which are of importance; namely, (1) The appendices epiploicae, and (2) The course of the blood vessels thru the wall of the colon.

The appendices epiploicae are simply tags of fat surrounded by peritoneum which is continuous with the peritoneum of the colon. The enclosed fat is continuous with the subserous tissue. The appendices are situated along the lateral sides of the colon and terminate at the distal extremity of the sigmoid flexure. The larger blood vessels supplying the wall of the colon frequently enter the wall at the base of the appendices, pass directly through the muscular coats to the submucosa and there branch to supply the muscular and mucous coats. They are surrounded by a small amount of loose connective tissue. So that in the contractile wall of the large colon there are numerous channels extending from the mucosa to the visceral peritoneum which are filled with connective tissue, blood vessels and a small amount of adipose tissue. This anatomical arrangement creates a locus minoris resistentiae and, therefore, must be considered as the primary etiological factor of this condition.

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*Read at the Nebraska State Medical Association, May 19-21, 1919.

Diverticulitis and peri-diverticulitis may, for practical purposes, be considered as different stages of the same disease arising from the same etiological basis. The condition occurs more frequently in males than in females, the ratio being about two to one. The sigmoid is more frequently involved than any other part of the colon, while the rectum is never affected. This fact may be accounted for by the absence of appendices epiploicae

Among the most important contributing factors are (1) the age of the patient, and (2) increased pressure within the colon. This condition occurs in middle life or old age and very rarely in young adult life. This may be explained by the changes which the musculature of the body undergoes with advancing age. The musculature of the colon, loses its tone and becomes weakened, consequently, there develops a condition of constipation. Many of these patients give a history of obesity at some time during their past life, which would contribute to the weakening of the musculature. (2) The increased pressure within the colon is caused by an accumulation of feces and gas which results from constipation. As the musculature of the colon becomes atonic and loses its contractile power there is a gradual increase in the severity of the constipation which is frequently intensified by the use of drastic cathartics.

Consider the anatomical structure of the colon, affected by the afore-mentioned contributing factors, and it is easy to picture a hernia of the mucosa thru the muscular wall of the gut, appearing on the peritoneal surface of the colon. This hernial sac is composed of mucosa, sub-mucosa and peritoneum; with occasionally a few muscle fibers. It is directly connected with the lumen of the bowel and usually filled with feces or an enterolith. The mouth of the sac may be constricted or as broad as the diameter of the sac.

When this diverticulum undergoes acute inflammatory changes there is created a chain of clinical symptoms which is almost identical with that of acute appendicitis. In fact, this condition is not infrequently erroneously diagnosed as left-sided appendicitis. If during the acute stage the colon is evacuated by an enema or catheter there is a marked increase in the intensity of the pain which fact is of diagnostic importance. On examining the patient the tenderness, spasm and mass, if palpable, are located on the left side of the abdomen below the iliac crest.

An acute attack may subside, but there is grave danger of perforation and peritonitis. If the attack subsides it is often followed by symptoms of a chronic inflammatory condition of the colon.

Peri-diverticulitis has an entirely different pathological and clinical picture. The pathology consists of a chronic infiltrating infection of the wall of the colon. All coats of the colon are involved and comprise an indurated inflammatory mass. As the induration proceeds, the lumen of the colon becomes narrowed until there may be a very small canal connecting the descending colon with the rectum. The infection, in the greatly thickened wall of the colon, may form numerous abscesses. In two cases of my own, pressure upon the mass would cause several drops of pus to exude thru the peritoneal surface. These cases are usually complicated by adhesion formation which unites the mass to the pelvic wall, the small intestine and the pelvic viscera, especially the bladder. Frequently fistulae form between the colon and bladder and the fecal material may be recognized in the urine.

From a clinical point of view the condition closely resembles carcinoma of the colon and, if possible, must be differentiated from carcinoma before operation. The most prominent symptoms are, pain in the lower left abdomen and constipation. The pain is of a dull aching type with occasional paroxysms of sharp cutting pain which may radiate up the left side of the abdomen, down the left thigh or thru to the left back. When adhesions are present between the mass and the bladder there is more or less pain referable to the bladder. In the female the condition may closely resemble chronic pelvic inflammatory disease.

Constipation is the most constant symptom and usually occurs before the advent of pain. It is of a slow progressive type of increasing severity with occasional attacks of transient obstruction. As a rule there is very little loss of weight but the patient may complain of toxic symptoms which result from the constipation. The patient seldom passes blood from the bowel which fact helps to differentiate it from carcinoma.

Physical examination of the patient is more or less unsatisfactory. Occasionally a sausage-shaped mass can be felt in the region of the sigmoid which may be slightly tender. Nothing can be learned from digital or proctoscopic examination of the rectum. The X-ray is the greatest aid in arriving at a diagnosis. A picture of the colon should be taken before introducing any barium in order to eliminate calcified pheboliths from the succeeding series of plates. Examination after a barium meal will show the constriction of the sigmoid and frequently small masses of barium will be seen apparently lying outside of the colon or connected with it by barium pedicles. The symmetry of these small masses differentiates the condition from the pockets formed by carcinoma. After the plates have been made, a cleansing enema should be given followed by a barium enema. This will often show the diverticulae more clearly. Barium may remain in these diverticulae for several days.

Diverticulitis and peri-diverticulitis are surgical diseases. On opening the abdomen the method of procedure depends upon the condition found.

If the diverticulum is present with little or no involvement of the surrounding wall of the colon it may be treated as a simple appendix, care being taken to secure healthy tissue for the inversion suture. Even in the presence of pus I think it advisable to endeavor to close the colonic wall if the perforation can be found without endangering the general peritoneal cavity.

If a larger section of the wall is involved as in peri-diverticulitis, the modus operandi is largely a matter of surgical judgement. As carcinoma is frequently a complication of peri-diverticulitis, the ideal treatment is excision of the involved gut. If this is impracticable, oftentimes a short circuit operation around the diseased gut will give very good temporary and sometimes permanent relief. In those emergency cases for obstruction with numerous and firm adhesions it is better to do a colostomy than a radical operation. At a later period, when the patient is in better physical condition, the radical operation may be considered.

In conclusion, I would urge that all middle-aged or old people complaining of an increasing constipation, with or without pain in the lower left abdomen, be given the benefit of a complete examination including the X-ray.

Bibliography.

1. Disease of the Stomach, Intestine and Pancreas. Kemp.—2nd Ed.—1.
2. Jour. A. M. A.—Sept. 14, 1912—Griffen—10.
3. Surgic. Gyne. and Obs.—Oct. 1912—McGrath—11.
4. Annals of Surg.—March 15, 1912—Carman—9.
5. London Lancet—1907—Cullen—2.
6. Jour. A. M. A.—Aug. 15, 1908, Brewer—6.
7. Surg. Gyne and Obs.—July 1907—Mayo—3.
8. Am. Jour. Med. Sciences—Oct. 1907—Brewer—4.
9. London Lancet—March 1908—Telling—5.
10. Am. Jour. Med Sciences—Aug. 1910—Hartwell and Cecil—7.
11. Annals of Surg.—May 1911—Bruce—8.
12. Medical Record—Aug. 1, 1914—Abbe—18.
13. Hygiea—Feb. 1914—Dahl—13.
14. Annals of Surg—March 19, 1914—Shoemacker—14.
15. N. Y. Med. Jour.—March 14, 1914—Erdman—15.
16. Annals of Surg.—Aug. 1913—Ranshoff—12.

Herniotomy Under Local And Spinal Anaesthesia.*

Henry B. Boyden, Grand Island, Neb.

Herniotomy is one of the most frequent operations encountered and the operation per se is standarized, but we frequently meet concurrent pathological bodily processes which would seem to definitely indicate more refined consideration than is generally accorded the anaesthesia used in this operation and as one observes clinics wherein they employ local or spinal anaesthesia routinely, my convictions are that these methods are entitled to a wider usage than is generally given them.

In performing a herniotomy under local anaesthesia one must use the gentleness and precision of operation that should be used under general anaesthesia. To quote Dr. T. L. Bennet, the expert enaesthetist, "The best surgeon is the surgeon who acts all the while as though he were afraid of waking the patient up."

A herniotomy can be done painlessly under local anaesthesia.

Under spinal anaesthesia one should be able to do the spinal puncture with the same skill and ease that you would give a hypodermic or do a veno-puncture.

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*Read at the Neb. State Medical Association Convention, May 19-21, 1919.

It is my opinion that the rather extensive usage of quinine and urea hydrochloride a few years ago in local anaesthesia and the use of stovian for spinal anaesthesia a short time later, with wound sloughs in the former and some mortality in the latter, incurred an unjust timidity toward the usage of these methods.

As interne at Cook County Hospital, Chicago, I saw a number of bad results in wound healing when quinine and urea hydrochloride was employed as a local anaesthetic and a fatal case of spinal anaesthesia under stovain, which was at the time Jonnesco made his tour in this country. These observations give one a reluctancy toward such procedures. However, when one visits Babcock's Clinic in Philadelphia and sees the extent that he used spinal anaesthesia and sees Bodine of New York do a hernia under local, you have a reassurance given you.

My experience has been entirely with novocain with which I feel secure and consider entirely satisfactory.

A pre anaesthetic narcotic of morphin and atropine is given in both local and spinal anaesthesia to lessen any psychic shock and to allay the pain when the analgesia is gone.

The technique I use in local anaesthesia is to infiltrate the skin incision using a hypodermic needle. Then infiltrate the subcutaneous tissue using a needle 15 to 20 gage, 1½ inches in length. Then I insert the needle perpendicularly to the skin, penetrating the aponeurosis of the external oblique, which I can very definitely feel, and infiltrate this subaponeurotic area.

In five minutes make the incision through the skin, subcutaneous fat and the aponeurosis of the external oblique. Upon the exposed surface of the internal oblique you will see the ilioinguinal and hypogastric brands of the iliohypogastric nerves which are blocked with a few minims of novocain solution at the upper end of the wound. This also makes one careful as having seen these nerves you will not cut them as is so often done under general anaesthesia.

The internal oblique muscle and the coverings of the spermatic cord are infiltrated, blocking any filaments of the genital branch of the genito crural over the cord.

The subserosa of the sac is injected; if sensitive, an injection of the periosteum around pubic spine will avoid any pain in the pubic reflection of Poupart's ligament, whose innervation is derived from the 12th dorsal nerve. Just prior to cutting and tieing off I inject the neck of the sac.

I use novocain .25 to .50% in normal salt solution and use 5 to 10 oz. of solution and not more than 8 grs. in all and one drop of adrenalin 1-1000 to each 100 drops of novocain.

For spinal anaesthesia, I have the patient sit with his legs over the side of the table; his feet on a chair; the body bent forward so as to flex the lumbar spine and make the puncture in the line of the spinous processes in the vertebral interspace above the line passing through the highest points of the iliac crests.

I employ novocain one grain to 1½ to 2 c. c. of normal salt solution and withdraw the same amount of spinal fluid prior to injection and then have the patient retain the sitting posture three minutes.

The analgesia developes in two or three minutes and if not developed in six minutes, is repeated.

To avoid suggestion, no inquiries are made as to pain sensations but the facial expression is watched as the skin is pinched. The analgesia is first noted in the feet and the patient will have a tingling sensation in the heels and the lack of knowledge as to the position of the feet.

The analgesia lasts 45 to 90 minutes and wears off gradually and unnoticeably and the patient may require a hypodermic for pain at this time.

During the operation, I usually allow the patient to have sips of water or small bits of ice.

The agents applicable for spinal anaesthesia are stovain, tropocain and novocain and Babcock considers their activity as to efficiency and toxicity in this relative order; novocain being one-half that of stovain.

Stovain must be acidified to prevent precipitation by the spinal fluid while novocain is not precipitated by spinal fluid and even in 10% solution is not actively hemolytic.

Alcohol or gelatin additions, in order to lower or raise the specific gravity of the solution, are only to be considered in spinal anaesthesia of higher levels when a lighter or heavier solution, respectively, is wished and the diffusibility controlled by lowering or raising the head and shoulders promptly in each.

Spinal anaesthesia is indicated especially in elderly people with Emphysematous, Bronchial or Tubercular lung conditions, or is indicated in Myocardial and Endocardial lesions; also in nephritic or high blood pressure conditions.

It is also indicated in any condition of lowered vitality wherein one does not wish to add to the patient's weakness.

While I would not use it in pronounced cases of severe shock, as there is a lowered blood pressure under these conditions, and there is a slight lowering of blood pressure with spinal injections, I have used it in early strangulated or incarcerated hernia and the result of blocking the spinal cord has brought the patient out of the shocked condition during the operation.

Local anaesthesia is indicated in the same class of cases that one would use spinal anaesthesia by choice but more especially in the active adults with associated lung, heart or kidney lesions.

Excepting with highly nervous people who do not wish to be conscious during an operation and including those with unpleasant ether reminiscences, I operate on hernias by choice under local or spinal anaesthesia.

To briefly cite a case:

F. W., age 84, retired farmer, referred to me for operation February 12, 1919, and upon examination had incarcerated irreducible hernia, a marked arrhythmia and a chronic Bronchiectasis, and was unable to assume the reclining posture, with a pulse pressure of 20 for most of the heart beats. I was absolutely sure that ether would be fatal to the man and operation was performed under spinal anaesthesia; primary wound healing secured and the patient left hospital March 5, 1919, and resumed his routine duties.

I think this case proved the risk there was for an operation and the safety of the procedure which we employed.

*Heat and Cold In Surgery.

Dr. Chas. H. Breuer, Lincoln.

The application of heat or cold for local and internal troubles is a familiar thing, and much has been written about its effect and methods of applying, especially about the best known method, that of hydrotherapy. But when we look to the surgical field for the use of heat and cold, we find that very little has been written. It is still a practically little known field. But little by little, surgeons are beginning to find out that cold and heat, especially the latter may be used with very beneficial results in surgical conditions. The most convenient mode of applying heat or cold has been through water, and thus hydrotherapy has developed. The beneficial results have been attributed more to the water than to the temperatures. It seems that in times gone by, people have attributed almost miraculous qualities to water, and used it, not so much for the actual qualities of the water but because they believed, in their superstition, that it had some secret healing power. It is for this reason that there are so many famous springs today, and the old belief still clings to such an extent, that many of these springs are practically worshipped even at this late date, for their wonderful healing power. It is true that the results from baths in these springs are often beneficial, yet experiments have proved that these results are no better than baths in ordinary water, especially if some mineral like Epsom salts has been added. But the subject under discussion is not miraculous springs, but heat and cold, and the chief method of applying these, that is, through water. It was only after much searching that I was able to find the material concerning surgery which I shall bring before you. To this I have added what I have learned from my own experience.

General Properties of Water.

The first quality of water discovered was that of its dissolving power, and this led to its use as a cleansing agent. The second quality is that of its capacity for absorbing or abstracting heat. For this reason it was very early used to lower temperature in fever. On the other hand, when water is passing from liquid into steam, an enormous amount of heat is rendered latent, hence if we allow water to evaporate from a surface, we have the best cooling agent. Water cools very slowly, therefore it is a valuable agent for storing, abstracting and applying heat. Thus, since the subject of this paper is heat and cold therapy, we find that one of the best methods for applying this heat and cold is through water.

Water may be used in its pure form, or with the addition of various salts. These mineral salts raise the boiling point. It is for this reason that various wonderful properties have been attributed to the mineral springs.

The effects of heat and cold on the body

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*Read at the meeting of the Lancaster County Medical Society, April 12, 1919.

are exerted mostly through their action on the peripheral nerves and the circulation. Therefore the chief sphere of heat and cold is on the skin. Thus we see that the action of heat and cold is very simple. The skin may simply be regarded as a great expansion of vessels and nerves which are only imperfectly sheltered by the epidermis. As water is the easiest means of conducting heat and cold, we will first discuss the effects of hot water on the skin. The effect produced by heat and cold on the skin is simply the expression of the reaction of the blood vessels and nerves to the difference of temperatures. Heat produces general relaxation of tissues and dilates the blood vessels, thereby producing a hyperemia. By a soothing effect on the peripheral nerve endings, this effect is also carried to some of the deeper tissues and organs. In this way we can affect the deeper organs by applications to the surface. The skin is supplied with a very rich network of nerves and vascular capillaries, both of which are gathered into larger trunks as they approach the deeper parts of the body. As the larger trunks of the vascular channels connect the peripheral circulation directly with the heart, so the terminal nerves, sympathetic and sensory, are gathered together into the central nervous system. Thus a stimulus applied to the periphery may affect the entire vascular and nervous system of the whole body, for the skin is really a sort of an external regulator of these systems. And applying our knowledge that certain viscera have definite relation to certain areas of the skin, we may again have an external stimulus affecting deeper seated organs. Stimulus of certain nerve endings produces dilatation of the capillaries and an increased flow of blood to that spot, followed usually by perspiration. By evaporating this sweat, much surplus heat may be removed from the body.

The effect of cold is in many instances directly opposite to that of heat. Through application of cold to cutaneous areas, superficial capillaries are contracted and ischaemia of that part of the body results. In a similar way, ischaemia of the deeper organs may result from application of cold to the skin. Perspiration is arrested by application of cold, the involuntary muscles of the skin are stimulated to contraction , and "goose-skin" results. Contraction of cutaneous vessels diminishes the skin secretions, increases the blood pressure of the deeper seated organs, and stimulates their vital processes. By producing dryness of the skin, radiation is retarded, and body heat conserved. By increasing blood pressure diuresis is produced through the increased blood supply of the kidney, and the daily output of urea is increased, as is also the total amount of solids. Heat has a decided influence on the relative proportions of the corpuscular elements of the blood. Heat lowers blood pressure, and retards the current of the blood, whereas cold elevates blood pressure and increases the force of the blood current. The increased blood pressure in the spleen, the lymphatic glands, due to the general peripheral vascular contraction may wash out many of the white corpuscles into the general circulation, thus producing leucocytosis, whereas heat, by the general retardation of the circulation may produce leucopenia.

These effects are made use of quite frequently in surgery, and with their aid we can regulate the blood supply of certain areas in the body, and thus effect changes necessary to restoration of normal conditions. (1 & 2.)

To recapitulate: The primary effects of heat are those of an exciting physiological stimulant. Within physiological limits, the application of heat to the tissues increases the activity of their protoplasm, an effect easily recognized in the quickened movement of the amoebae, leucocytes and other minute living forms, when placed on the warming stage of the microscope. Heat is thus one of the most powerful vital stimulants, exciting the functions of all tissues upon which it may be brought to bear—glands, nerves, nerve centers and the like. These effects, however, are only temporary, and are followed by secondary effects of an opposite nature: depression, a sort of a tonic effect after the withdrawal of the hot application. To these secondary effects are attributable the weakening or exhausting effects of thermic measure when improperly managed or inappropriately applied. Thus, for instance, the elevation of the temperature of the sweat glands increases their activity. If the application of heat is continued long enough to raise the temperature of the blood, all the vital activities of the blood are accelerated, at the same time, however, there is set in motion a series of inhibitory effects which result from the stimulation of the heat nerves, the tendency of which is to lessen heat production and lower blood pressure, and diminish the disposition to and the capacity for mental and muscular activity. Cold acts in precisely the opposite way. In lowering the temperature of the structure of the skin, it acts as a depressant, diminishing the activity of the sweat glands and other structures. If continued long enough to lower the temperature of the blood, heat production and other vital activities are lessened. Cold acts, however, as an excitant to the cold nerves of the temperature sense, (these nerves as well as others may be paralyzed by an intense or prolonged application of cold). Stimulation of the cold nerves produces, reflexly, a strong excitation of almost every bodily function. The force of the heart contraction is augmented, the blood pressure is raised, heat production increased, metabolic activity quickened, and the disposition to and the capacity for mental and muscular activity heightened. The effects of heat are, then, indirectly depressant, and directly excitant; while the effects of cold are indirectly excitant, and directly depressant. These mixed effects afford opportunity for an indefinite number of variations in the form of intensity of hydric and thermic applications and in therapeutic effects.

The actual effects of a thermic application depend (a) upon its temperature, duration and form; and (b) upon the condition of the patient. Prolonged application of a high temperature is at first excitant, then depressant; a very brief application of high temperature is at first excitant, and the depressing effects which follow may be so slight as to be scarcely noted (3).

The relatively anemic condition induced in the viscera by drawing the blood to the surface, minimizes their activity, and thus tends to act as a general sedative. (4) Forchheimer states that heat stimulates phagocytosis, and raises the opsonic index, thus assisting in the healing of wounds and in preventing and curing sepsis. By attracting more blood to the wound area, it stimulates leucocytosis around the wound, which condition is so essential to prompt and rapid healing.

One very important effect of heat in surgery is the attenuation of all kinds of bacteria and viruses by heat higher than blood temperature. (5) Whenever prolonged heat, whether dry or moist, is applied to a wound, suppuration soon stops, the wound becomes clean and begins to granulate. Our great contemporaries in Chicago, Hektoen, Rosenow, Billings, Sippy and Washburne, have made this a special study for several years, and have come to a very interesting and important conclusion. This is that rheumatism is an infection produced by streptococcus viridans in a certain stage of its development. They have proved that lowering the body temperature stimulates their growth, and that is why the so-called cold is frequently followed by an attack of rheumatism. And further, that an increase of body temperature will hinder the growth of these bacteria, and gradually wear them out. This explains why heat is so beneficial in rheumatism. It has long been a belief among the laity that catching cold in a wound will cause suppuration, and that is why they have so carefully protected wounds from "catching cold." The above mentioned theory explains the foundation for this belief.

Another effect of heat is its destruction of all organic life, and this is made use of in sterilization, where we want to destroy bacteria and infection. There are many ways of disinfecting but heat is the most certain, most reliable, and the cheapest. It is now used wherever heat can be applied. Everyone is familiar with the method of sterilizing instruments, dressings, etc., and knows that no germs can withstand the action of boiling water for more than a few minutes, and that all spores are killed after a half hour's boiling. Nor can they withstand dry heat above 120 degrees C. Sterilization by heat has been in use a long time, but disinfection of infected wounds by heat is not in general use even yet. It is probably due to the reason that most of us thought that unless heat could be applied at boiling point, it would not have any effect on the infection. We know now, that this is unnecessary. All we need to do is to keep the application of heat to the point of toleration for a longer period of time. If the heat is kept up for several hours at the point of toleration, we can quickly see the improved condition of the wound.

The general effect of cold, or temperature between freezing and 90 degrees are much different from the effects of heat. Short application of cold, say of 40 degrees, has a stimulating effect on the circulation and nervous system, as I have said before. But a prolonged application, say of ten minutes, has a distinctly depressing effect as we all know. (6) The effects of cold upon the skin are local, and remote, and as the remote effects concern the internist more than the surgeon, we will discuss the local effects only.

The first effect of cold locally is constriction of the blood vessels and blanching. If the application is removed soon, a reaction will follow, with a rush of blood to the parts. But if this application is prolonged, stagnation of the circulation ensues, and if continued long enough, mortification will follow. If the temperature is not low enough to destroy tissues and surface circulation, the most important effect will be on infection. According to Hektoen and Rosenow, when the circulation is sluggish, and the temperature low, bacteria will thrive better and infection will be on the increase. That this is true is shown by the fact that wounds imperfectly protected from cold in winter do not heal readily, but keep discharging pus. (7).

By stagnation of the circulation, effete materials are not removed properly, and the nutrition of the parts is below par. The effect of this is the reduction of natural immunity, another reason why wounds under the effect of cold do not heal. (8).

Application of Heat.

Heat and cold may both be applied either dry or moist. Dry heat or cold may be applied in water bottles or as dry air. Another useful method of applying heat is the use of radiant heat, of the sun, hot stove, electric heater with reflector, or simply incandescent lamps enclosed in metal containers, the so-called photophores of Dr. Kellogg. The newest method of applying dry air is by diathermy, or electric heating pads. (9). Hot air may be applied through a burning lamp with the necessary tubing under the dressing or bedclothes of the patient. For treatment of rheumatic affections, for instance, a cradle is made that covers the entire body, which is then placed under the bedclothes. For generation of heat, we may use either kerosene, alcohol or gas. Dry heat may also be applied with sandbags. Moist heat may be applied by compresses either hot or warm. Cold may be applied in the same way.

Bier has made use of dry heat as one of the agents in the treatment of chronic infection of the joints, and his treatment bears the name of Bier's Hyperemia (10). By applying heat to the part to be treated, mostly as dry air, hyperemia was produced, hence nutrition and local immunity were increased. Bier has attributed the beneficial results solely to the hyperemia, or increased blood supply. But the fact is that it is not the blood supply alone that has produced the desirable effects, but also the increased temperature of the parts. He applied his treatment for several hours, thus the bacterial infection was attenuated by the increased temperature for a long duration of time; their resistance to the action of blood and other body fluids was reduced, as was also their tendency to multiplication.

From the observations above, we may readily conclude that fever is really a conservative process—nature's own remedy to combat infection and wear out bacteria, and thus terminate diseases. Unless the fever gets too high, or continues too long, thus endangering the nervous tissues and the blood itself, it is not only harmless, but really beneficial, and should not be checked. This is directly in opposition to the teachings of past years, when the tendency was to regard the fever as the disease, and every effort was made to check it.

Cold applications, such as ice bags and cold packs, to abstract heat from the affected parts, have been commonly used and are still used to some extent at present. Some still use cold packs in appendicitis and inflamed joints. In my experience, I have seen more harm than good resulting from such a procedure. Since I am using hot applications in appendicitis, I have never had a death or gangrene following. If the temperature of the body gets too high, it is very easily lowered by moist warm applications. These packs evaporate water, and this evaporation lowers the temperature by abstracting heat from the inflamed parts without chilling them and without reducing the temperature below the safe point.

Other Uses of Heat and Cold.

Beside combating infection, we have many other uses for heat and cold in surgery, which I shall briefly state. Hemorrhage can be stopped by the application of either dry heat or dry cold (11). As heat is a great relaxant, it may be used to great advantage to quiet patients with colic, whether it be renal, gallstone, uterine, appendicular or any other kind of colic. It may be applied either as dry heat or hot moist packs. In gas pains after abdominal operations applications of a hot moist pack will quickly quiet the patient by quieting the spasms of the intestines and distributing the gas throughout the bowels (12). In cases of chronic tubercular and other suppurations, continuous hot bath, day and night in hot salt solution will quickly change the condition and infection will terminate. In burns of the second and third degree, a continuous hot bath has proved very beneficial. (13 & 14).

In fractures near the joints, where ankylosis is threatening, heat applied for hours at a time, followed by passive motion will relieve the ankylosis. (15). All modern authors recommend heat in treatment of chronic synovitis and chronic joint diseases. (16). In uremia following ether anaesthesias dry heat to the back, or a general hot air bath will prove very beneficial. (17). And finally, heat in the form of hot air blown into the ear has proved almost a specific in the treatment of suppuration in middle ear disease.

Cold has been used with success as a local anaesthetic, applied as a spray of some rapidly evaporating substance such as ether or ethyl chloride to the skin, to the point of freezing. Cold may also be used to arrest capillary hemorrhage by contracting the capillary blood vessels. (19). Cold does not destroy bacteria, and hence cannot be used as an antiseptic, and as stated above, applying cold to the infected areas with the intent of reducing the temperature does more harm than good.

Conclusion.

Heat hinders the development of bacteria, and hence can be used successfully in combatting sepsis.

Heat, on account of its relaxant qualities is a very useful analgesic. As it produces phagocytosis and active hyperemia, thereby increasing the immunity and raising the opsonic index, it is a great aid in healing all infected wounds.

Cold, by reducing circulation and lowering immunity, favors infection and retards healing, therefore instead of cold applications in sepsis, we should either use warm applications in a high degree of fever, or hot applications in lower degrees of fever.

Bibliography.

1. Forschheimer—Vol. I, pp 185 ff.
2. Cohen—Vol. IX, p 18.
3. Cohen—Vol. IX, p 243.
4. Forschheimer—Vol. I, p 192.
5. Cohen—Vol V, Page 192.
6. Forschheimer—Vol. I, p 190.
7. Cohen, Vol. IX.
8. Cohen—Vol. V, 42.
9. Oxford—Vol. I, p 906.
10. Warbasse—Vol. I, Page 280.
11. Keen—Vol. V, p 197.
12. Musser—Vol. III, p 392.
13. Johnson—Vol. I, Page 699.
14. Warbasse—Vol. I, p 822.
15. Johnson—Vol. II, p 235.
16. Musser, Vol. III, p 86.
17. Musser—Vol. III, p 630.
18. Oxford—Vol. I, p 906.
19. Musser—Vol. III, p 266.

Roentgen Diagnosis of Kidney Lesions.*

Roscoe L. Smith, M. D., Lincoln.

Roentgenology offers us a new and valuable method of kidney examination, and brings forth information that cannot be had from any other method.

With improved and accurate technique, we expect to show the accurate size, shape and position of the kidney proper, and the size shape, and extent of the pelvis. Roentgenograms must be absolutely perfect, however, to show the pelvis, and since there are many men present who do X-ray, I will give you my technique for these exposures on an average 140-lb. patient. A tube of the finest focal spot practical, is excited with 40 M. A. and a potential of 30 kilovolts in as close contact to the kidneys as practical, using a Hickey compression cone, large enough to occupy the epigastric space and compressed downward and upward at a 40 degree angle, allowing the cone to lift up the ribs. A double intensifying screen with Eastman duplitized film between, having previously been placed under the kidneys, an exposure of 10 to 15 seconds is made, and the exposed film developed in the usual way at a temperature of 65 degrees. This technique should give beautifully detailed roentgenograms on all patients of most any size if modified to suit the individual case.

When roentgenograms are correct, stone in the kidney of any size, should be seen at a glance, and its position accurately estimated, whether in the pelvis or kidney proper. When multiple stones are present, one is sometimes confused as to exact location, but this uncertainty may be correctly proven out by reexamination 24 hours later. If the relation of stones to the kidney and to themselves have not changed, it is safe to say they are in the kidney and not the pelvis. If their position has changed completely, then we know they are free in the pelvis proper.

Kidney stones are sometimes confused with those in the gall bladder and my method of differential diagnosis is as follows: Kidney stones are usually more dense and cast a well defined shadow and show no difference in structure, while gall stones are less dense; cast a fainter shadow and usually have centers of very little density.

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*Read at the meeting of the Lancaster County Medical Society, April 12, 1919.

The most positive differential point, however, is the fact that kidney stones are near the dorsal surface, while gall stones are in close contact with the ventral surface. The nearer a stone is placed to the plate, the smaller the shadow cast; the farther away, the larger the shadow.

If a roentgenogram of a patient shows a smaller shadow with the patient on his back than on his abdomen, we know the object is near the dorsal surface.

Displacements of the kidney causes much concern, probably more than it should and less than formerly, and can accurately be diagnosed even to the degree, by roentgenograms in upright and horizontal positions.

Congenital abnormalities, displacements, double kidneys, or absence of one or both kidneys may be diagnosed accurately from roentgenograms.

Hydro-nephrosis, unless it is so extensive that it covers the entire field can be seen easily as can other types of enlarged kidney from malignant tumors. Pyo-nephrosis, etc.

A negative roentgen examination rules out the existence of stone, or any thing that will interfere with or change the normal size, shape and position, and with the advantage of functional kidney tests to ascertain definitely the work ability of the kidney.

It seems to me that catheterizing ureters and injecting the kidney is a procedure to be used only on rare and exceptional conditions and that this method of examination is seldom necessary, in view of the more recent roentgen examinations which causes the patient no discomfort and which has no possibilities of unpleasant complications.

Catheterizing ureters then would be of great value in treatment only.

Lip-Reading: An Aid to Hard of Hearing Adults.

Emma B. Kessler, Teacher of Lip-Reading, Omaha.

Lip-reading has been aptly called "the way to victory in the fight with deafness." Many adults who do not hear well have been started on this "way to victory" in the otologist's office. Some of us, however, had drifted far out on the way to discouragement when a stranger chanced to point out the better course.

Inasmuch as the ability to read the lips often means the difference between happiness and despair, it is unfortunate that the value of speech-reading is not better appreciated. Many hard of hearing adults are living less normally than they need to, simply because they do not know that the eye can be trained to interpret speech movements as the ear interprets speech sounds. Others are too indifferent to apply themselves to anything that requires study. Then, too, a considerable number who have ambition to become lip-readers are not allowed by their own families to take the necessary instruction. If lip-reading were fully appreciated, no one would ever dissuade any deaf person from making a study of the subject. Instead, it would be considered a matter of conscience to urge him to do so, for anyone who is hard of hearing at all is deaf enough to use lip-reading to advantage.

The late Dr. Clarence John Blake once said to one of his patients, "God never closes a door without opening a window." He is indeed fortunate who directs his attention toward the "open window" as soon as it is known that the "door" is beginning to close. It happens, however, that lip-reading is generally taken up as a last resort, long after the otologist has found that the hearing can not be restored—and after all unscientific remedies recommended by relatives have inevitably resulted in failure. Consequently progress is made more slowly than if the study had been taken up before losing courage, and while still under the doctor's care. It was also Dr. Blake who felt that the recognition of the value of lip-reading on the part of the public would eventually lead to its inclusion in the regular course of study of our schools and colleges.

Changing his mode of understanding speech is by no means the only obstacle a person has to overcome after his hearing is impaired. He is supersensitive, depressed and distrustful. The best weapon with which to combat one's mental foes is lip-reading, "that subtile art, which may inable one with an Observant Eie to see what any man Speaks by the moving of his Lips.". (Dr. John Bulwer, 1648). Lip-reading strengthens the morale, and the earlier it is mastered the less difficulty is experienced in bringing about the readjustment essential to the well-being of all whose hearing becomes impaired in adult life.

Deafness is no respecter of persons, and lip-reading is for all who are hard of hearing. Records show that factory workers, laundresses and housemaids, as well as men and women in business and the professions, have become adjusted to their handicap with the aid of lip-reading. Not all can acquire the same degree of proficiency, but all can be helped, for instruction can be adapted to the individual's mentality and cultured background.

"I die not, neither do I live" expresses the feeling of many when obliged by only partial deafness to give up their regular occupations; and many a person who has been on the verge of despair has taken a new grip on life when lip-reading enabled him once more to find employment and enjoy the companionship of friends.

Clinical Report.

Tetanus: Lockjaw.

On June 16, a boy aged 9 years stepped on a nail. His mother dressed the wound with iodine. It healed and did not give him any pain or distress. He did his work as usual. On June 23rd he complained of sore throat and difficulty in deglutition. On inspection I could not detect anything wrong with pharynx. The complaint was made in the morning after an ordinary night's rest. This muscular stiffness was followed by increasing tonic spasm in the muscle of the jaw. It was very difficult for him to open his mouth and the head and neck became rigid and fixed by spasms of the cervical muscles. The abdominal muscles were firm and board-like, and dorsal muscles contracted. The characteristic feature was the clonic exacerbations, spastic rigidity, and violent convulsive muscle-activity. The whole body was contorted and any muscle exertion was most painful. The mouth was puckered, its corners drawn upward and backward, giving the face that peculiar "sardonic grin". The abdominal and flexor muscles of the thighs were involved, the body bent forward, reflex irritability was pronounced, and on the lightest movement in the room, jarring of the bed, noise, flash of light he immediately had convulsions. The jaws were so fixed that he spoke with extreme difficulty. The tongue could not be protruded. Attempts to swallow gave him much pain.

June 23rd, seven days after the injury, the parents brought the boy to me. I gave him 10,000 units antitoxin intravenously, with 10,000 units subcutaneously.

June 30th, the patient is getting better. He can take liquid diet and is free from spasms.

F. A. DORSEY, Ex-Capt. M. C.,
Hartington.

The Journal would thank Dr. Dorsey for a follow up report on this case.—Editor.

Human Infection Carriers, Their Significance, Recognition and Management.

By Charles E. Simon, B. A., M. D., Professor of Clinical Pathology in the University of Maryland School of Medicine and the Colllege of Physicians and Surgeons, Baltimore, Maryland. (Lea & Febiger, 1919) Pp 250, xiimo.

The book is an excellent summary of the important subject of carriers in relation to the spread of disease. Only diseases of bacterial origin or those which are due to the activity virus are treated. The diseases discussed are Asiatic Cholera, diphtheria, epidemic meningitis, poliomyelitis, pneumococcus pneumonia, influenza, plague pneumonia, and certain streptococus infections such as camp septicemia, bronchopneumonia, septic sore throat, erysipelas, and puerperal fever. Under each disease the author discusses active and passive carriers, the habitat and virulence of the organism, modes of infection, methods of recognition of carriers, management and treatment of carriers, and specific instances of infections due to carriers. The treatment is quite full and the laboratory methods given are reliable and up to date. Under the discussion of poliomyelitis, no mention is made of the work of E. C. Rosenow, and his ideas in regard to the relationship between certain streptococci and the globoid organism of Flexner, which is probably an unintentional oversight. The assumption that the influenza bacillus of Pfeiffer is the cause of influenza is, in the light of the recent epidemic at least doubtful. On the whole, the book is very good and should be useful both to students and general practitioners who wish to increase their knowledge in regard to the large part that carriers play in the spread of infectious diseases.

JOHN T. MYER.

In the Treatment of Wounds Hull Says:

Drainage of Wounds—First, a thoroughly cleansing operation. If a counteropening for dependent drainage is required, it can be made safely and conveniently by passing some such instrument as a scoop or bullet forceps into the wound and pressing its point from the inside against the skin at the point at which the drainage incision is to be made. A counter-incision can then be made by cutting down upon the instrument without fear of damaging important structures.

A rubber drainage tube simply acts as a means of keeping the walls of the wound apart, since as much discharge passed out of the wound outside the drainage tube as through its lumen. If gauze drains are introduced the gauze is apt to get clogged and dried at some point, and it then acts as a plug and not as a drain.

Irrigation of Wounds.—The object of dressing a wound is to free it of toxic matter. If the dressings are simply removed and replaced by clean ones, a layer of toxic matter still covers the wound. The absorption from a film of septic matter probably differs little from the absorption from a pool of septic matter, so the result of simply changing a dressing is merely to limit the decomposition of discharges on the dressings.

In order to dress a wound efficiently, some means must be adopted which will clean the wound of septic matter at each dressing or preferably one which will carry out a continuous cleansing of the wound. This result can be obtained by irrigating a wound when changing the dressing or by continuous irrigation of the wound. The osmotic action of hypertonic solution is taken advantage of for the same reasons; the effect of hypertonic solution in the wound is to produce a continuous drainage from the tissues into the wound continually removing from the surface of the wound the film of toxic matter, and thus limiting septic absorption.

Irrigation is best carried out by arranging a continuous drop of saline solution through perforated rubber tubes. The success of continuous irrigation depends upon the irrigating and upon free drainage. An undrained pocket renders the treatment a failure. Dependent counter-drainage openings contribute largely to the success of this method. The wounds most suitable for treatment by continuous irrigation are compound fractures and deep septic wounds, particularly of the upper arm and thigh. Internal lavage by the Carrel method has replaced this treatment except in special cases. Fomentations of hot boracic solution clean up many wounds rapidly; in many cases they form a useful mode of treatment to alternate for a day or two with one of the other forms of treatment. It has been found that some wounds which are not cleaning or healing rapidly, in fact have become sluggish under one form of treatment, improve in a surprising manner when the treatment is changed.

The Bath Treatment of Wounds.—A solution of 1 in 5,000 flavine in 3 per cent salt solution has been found the most satisfactory bath. Bath treatment is the ideal one for highly infected wounds of the limbs below the elbow and knee. It is unnecessary and undesirable to continue the bath too long; the bath has the disadvantage of being very tiring to the patient, and is almost impossible for patients in a serious condition. The bath may be used by day, fomentations taking its place by night, or the bath may be used for a few hours of the day, and irrigation used for the remainder. Three or four days' bath treatment is usually sufficient. Wounds treated in the bath for a longer time take on a sodden appearance, with unhealthy granulations. When it is remembered how dissimilar are the powers of healing of wounds of such regions as the face and the feet, and that the superlative healing properties of the face are due to its large blood supply, it becomes apparent that the increase of blood supply to an injured limb produced by a hot bath forms one of the most efficient measures available in the treatment of wounds.—(Surgery in War, Hull).

It is much easier to pity mankind in the mass than to turn out on a stormy night to help a single neighbor in need. The one is only benevolent luxury, the other practical charity; best illustrated by the work of the country physician.

The dollar mark is a sign of wealth, not of worth, and it never is carved on a man's tombstone. When we praise men at the last it is often not for the things which gave them standing and reputation while they lived; it is their simple, homely virture which we recall.

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Atlantic City Session.

The American Medical Association has amply proven its worth to humanity and our profession. Organized for better service and never subsidized by commercial interests, its policies have always supported rational medicine intelligently applied.

In our Presidential Address, "The Control of Disease," was the key unlocking a wealth of instruction in each of the many orations and discussions in general and section sessions of the Convention. The scientific value of original work in surgery, with laboratory findings, greatly supplementing the internists interpretation of clinical signs was a noticeable factor in many essays and discussions in all the sections.

More definite and constructive than in previous sessions was the standard set by our Speaker, and maintained by standing and special committee reports in our House of Delegates. Promptness in attendance, oneness in purpose, unanimity in action, and brevity in speech, was required of each accredited delegate. Of special educational value were two reports, one by the Council of Health and Public Instruction, the other by the Council on Medical Education. These reports are not mentioned as showing more than others the labor in their productions, nor excellence in clarifying and condensing their findings. They are of interest for their enlightenment on subjects that just now greatly interest the public and vitally concern our efficiency as wise leaders in public health problems for the control of disease. At the close of the Civil War 1861-65, this country was inadequately supplied both in numbers, and in point of sanitary knowledge, with physicians essential for the vast medical work of the reconstruction period. The answer then, was commercialized "diploma mills" to label more men as doctors. The deleterious effects from lowering of our standard prevailed as a merited rebuke to our intelligence until the federated work of our County, State and National Medical Association, initiated and conducted an educational propaganda that in fifteen years has eliminated the majority of the unfit medical colleges, by raising the standard for obtaining a license to practice the healing art. We are now at the close of the World War 1914-1918, confronted with problems for medical solution between people of different tongues, habits, and varying modes of living where both reorganization and reconstruction are imperatively demanded. Today America is the applauded leader of the world in medical skill and sanitary affairs. Though depleted in numbers for the great needs of medical work at home, we are abundantly supplied with men and money if compared with conditions in European countries.

The Committee Reports mentioned present lines for action which by a united, continuous and cooperative County, State and National propaganda, will prevent "short cut routes to the legalizing of pathies as play grounds for the indolent, or gold mines for the shrewd charlatan." Supplemental to, or as amplifying the Committee on Health and Public Instruction report, is a monograph on State Regulations of the practice of Medicine by Frederick R. Green, Secretary of that Committee. He courteously permitted us the privilege of mailing a copy of said monograph to each county society secretary in Nebraska.

Narcotic Drugs.

Accompanying the withdrawal of alcoholic beverages there has been a considerable increase in the number of users of narcotic drugs. This number has gradually increased during the past few years owing to the spread of prohibition over the United States and will probably become still larger now that prohibition has become a national affair. The alcoholic deprived of his alcohol naturally turns to drugs if they can be obtained in order to provide himself with the stimulant which he craves and cannot get because of the deprivation of alcohol. Drugs are not bulky and a larger supply can be more easily carried than can alcohol. A further danger that confronts us is that each drug user desires to teach some other individual the use of drugs.

The question of the number of drug users and their methods of obtaining drugs has become a national issue and one of which we do not know very much. Examination of men for admission into the army was enlightening and has been of value but much more knowledge is needed.

At the Victory Meeting of the American Medical Association, held last month at Atlantic City the following resolution was adopted by the House of Delegates:

"Resolved, That the Council on Health and Public Instruction, in co-operation with the special committee on narcotic drugs constituted at this annual session of this House, be directed to study the entire narcotic drug situation, Economic and Medical, in the United States, and report to the House of Delegates at the next meeting."

One of the persons who can give the greatest amount of information regarding drug users in his community is the medical man. He comes closer to the people than any one else and is in the position to recognize narcotic drug victims when he sees them. It is from the medical profession and especially the general practitioner that much of the information desired by the American Medical Association's Committee must come. We would therefore urge the physicians of Nebraska to bear this in mind and observe conditions relative to narcotic drug using in their communities in order that they may be able to give what aid they can in the way of information on this important subject.

It is perhaps needless to add a word of caution in our giving of narcotics and particularly habit forming drugs especially to those who have been accustomed to the use of alcohol.

Recording of Births.

The fact that the reporting of births in this State is so lax is deplorable. The statistics quoted by Dr. Wild in his reference to two hospitals in Omaha published in last month's Journal show that the matter of reporting births is greatly neglected by the physicians of the state. A controversy has arisen over the form of blank to be furnished upon which the report is to be made. This is altogether beside the question. The Health Department will endeavor to make everything having to do with the reporting of births as easy and convenient as is possible. The matter, however, goes farther than this. It would seem that physicians do not realize the importance of the proper recording of births and consider that it is an unnecessary detail which is requested for no real purpose. The state does not require records of births for its own purpose solely—but more largely for the protection and good of the individual concerned. These records are required in after years in the courts to establish rights to inherit property and many other legal rights, not the least of which may be the right of citizenship. It is rather disconcerting to find when applying for a passport, for example, that one's birth has never been recorded and some other method must be found to prove citizenship. This happens in many instances due to the laxity of records in the past.

The main question thus is the relation of the physician to his patient. The important consideration for each physician is the welfare of his patient and it is this that he is called upon by that patient to protect. This applies not only to matters of physical welfare but also to all forms of legal protection that may come under his jurisdiction. If therefore the physician neglects the filing of a birth certificate he is not properly protecting the rights of his patient for in the ultimate analysis he is denying to him the uncontrovertable proof of his inalienable right of citizenship in the United States.

Announcement.

The midsummer meeting of the Elkhorn Valley Medical Society is called to meet in Norfolk, Tuesday, July 29th, at 10 a. m., in the Country Club.

DR. A. P. OVERGAARD, Secretary,
772 Brandeis Th. Bldg., Omaha.

The Doctor and the Dud.

"Look out, Doc, that shell's a Dud. You must be looking for a long "pine overcoat" the way you go around picking up German shells," was the warning shouted roughly by Sergeant Black to Doctor Fred, who was "on a souvenir collection" trip.

With characteristic American curiosity for knowledge (and really not having had enough experience to know better) he was interested in a shell which he spied partially buried under the debris of the old stable, temporarily being used as a place to keep the ambulances. "By Jove," he thought to himself, "there is a little souvenir I can take home with me."

A. E. F. or not, you know what a "Dud" is—how dangerous and yet how innocent it looks. The "Duds" are still with you even here in the U. S. A. There are "Duds" in Japanese instruments—there are thousands of "Dud" thermometers—you cannot be too careful of your syringes. Imitation leather bags, sold for solid leather, are "Duds"—some Surgical Supply Houses are "Duds". Their prices are attractive; their merchandise is dangerous. Heed the warning before it is too late. The Doctor must always be on the alert to keep from picking up the "Dud", whether on the field of battle or in the realms of business.

While a "War Dud" may cost the life of the innocent investigator, a merchandise Surgical "Dud" may possibly cost the life of an innocent patient and will certainly cause the Doctor himself annoyance and disappointment. Men who have been sorting "merchandise Duds" for over twenty years are the trained engineers, specialists and expert investigators who know from long experience how to recognize "Duds". Can you afford to take chances. Can you afford NOT to buy from a house whose reputation has been built on the refusal to handle "Duds" without any regard to the extra profit entailed? For it is a generally accepted and indisputable fact that the profit on inferior merchandise is always proportionately greater than the profit on Standard high-grade articles.

Again, I say, Doctor—beware of "Duds". Appearance are often deceptive and price is always based on quality. There is no economy—no satisfaction in cheap merchandise and when you are offered a "low price" look out for a "Dud".

State Notes.

The Colorado Congress of Ophthalmology and Oto-Laryngology will be held in Denver, August 4-5, 1919. The program will be presented in the County Society Assembly Hall, Metropolitan Bldg.

In accordance with the Will of the late Clementine C. Conkling, a resident of Omaha, real estate in the City of Omaha to the value of approximately twenty-five thousand dollars has been bequeathed to the College of Medicine, University of Nebraska.

In accordance with the recent action of Inter-departmental Social Hygiene Board, a grant of five thousand dollars has been made to the University of Nebraska College of Medicine for a research on the antiseptic properties of certain anilin dyes in the treatment of gonorrhea. The research will be conducted by a selected group of the Staff of the College of Medicine under the direction of Doctor Edwin G. Davis.

County Society Notes

The Cedar-Dixon-Dakota-Thurston-Wayne Counties Medical Society held their semi-annual meeting in the Masonic Hall, 8:00 p. m., Wednesday, July 9, 1919. Drs. W. R. Talboy, Newcastle; L. Stark, Hartington; J. C. Hay, Laurel, and C. L. Phillips, Dixon, were on the program for scientific papers.

Marriages.

Samuel Arthur Van Osdel to Miss Clara Millow, both of Johnson, Neb., in New York City, recently.

Keshava Deva Shastri to Miss Minnie Jensen, both of Omaha, June 4.

Deaths

Julius Martin McLeod, Lincoln, Neb.; Ensworth Medical College, St. Joseph, Mo., 1890; Lincoln (Neb.) Medical College, 1895, aged 53; professor of surgery in his alma mater; professor of principles and practice of surgery and clinical surgery and president of the corporation of the Nebraska College of Medicine, Lincoln; a member of the surgical staff of the New Lutheran and St. Elizabeth hospitals, Lincoln; died at his home, May 18, from pneumonia.

Bruno John Ferdinand Getzlaff, Sutton, Neb.; formerly of St. Joseph, Mich.; Medical College of Ohio, Cincinnati, 1892; aged 51; died at his home, May 22, from chronic nephritis.

Paul C. O'Haver, Fullerton, Neb.; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1904; aged 45; a member of the Nebraska State Medical Association and president of the Nance County Medical Society, in 1915; mayor of Fullerton in 1913; died in the Matson hospital, Columbus, Neb., June 8, from valvular heart disease.

Yale University will hereafter require courses in American history and government of all undergraduate students who do not display convincing knowledge of these subjects.

In the September, 1918, issue of the American Journal of the Medical Sciences is an article by E. Mac D. Stanton, M. D., F. A. C. S., of Schnectady, New York, on "The Prognosis of Exophthalmic Goitre." In this article he discusses a paper on the above subject which he read seven years ago before the Schnectady County Medical Society. After carefully studying a great many cases his conclusions are:

"Removal of a portion of the thyroid gland of patients suffering from exophthalmic goitre produces a profound immediate effect noticeable within a few days of the operation and characterized chiefly by an improvement in the subjective symptoms of discomfort felt by the patient, but also accompanied by a marked fall in the pulse rate, a dimunution of the tremor and an increase in weight.

The initial improvement, however, seldom amounts to a cure. The exophthalmos usually persists for months or years. The heart remains irritable, the pulse becoming rapid with exertion or excitement and at irregular periods we may expect acute exacerbations of toxic symptoms, which may alarm both the patient and the surgeon.

The general tendency is, however, toward improvement rather than recurrence, and after a variable length of time a few patients may have failed to improve or even have grown worse; but the great majority, I believe about 80 per cent, will have continued to improve, so that finally practically all traces of their former trouble disappears.

It is useless for the surgeon to claim that there is no medical side to the treatment of exophthalmic goitre. After five or six years there is probably little to choose from between the medical and surgical end-results as regards either the mortality or the condition of the surviving patients.

Patients surviving operation have been promptly relieved of the more distressing subjective symptoms, and the majority of them will have been able to return to their normal work in about half the time that it would have taken them to reach the same state of improvement under medical treatment. Against this is the primary mortality which must always accompany operations for exophthalmic goitre unless we are to deny the chance of operative relief to many cases most in need of the relief.

In the future the man best able to treat exophthalmic goitre will be the one who has developed the judgment necessary to enable him to select the treatment, medical or surgical, best adapted to the individual case. The decision will depend upon many factors, not the least of which will have to do with the social condition of the patient, and whether she or he can afford the time and expense necessary for the prolonged rest required to effect a medical cure."

New and Nonofficial Remedies.

Sulphoichthyolate Preparations—Preparations containing as their essential constatuents salts or compounds of a mixture of acids containing sulphur and designated by the group name "sulphoichthyolic acid" are manufactured from certain bituminous shales. Sulphoichthyolic acid is characterized by a high sulphur content, the sulphur existing largely in the form of sulphonates, sulphones and sulphides. The ammonium compound of this sulphoichthyolic acid—first introduced as ichthyol—has been used extensively. The current estimate of the therapeutic effects of sulphoichthyolate preparations is based almost entirely on the use of ichthyol. As it is not known to what constituent or constituents of ichthyol such effects as it may have are due, the actions of ichthyol cannot be transferred to similar preparations which differ from ichthyol in their composition. The use of sulphoichthyolate preparations is still largely empirical, and the evidence for their use unsatisfactory.

Ittiolo.—An ammonium sulphoichthyolate preparation manufactured from bituminous shales found in Giffoni Vallepiana, Italy. Its composition closely resembles that of ichthyol. Since ittiolo closely resembles that of the original ichthyol, it is claimed that its actions and uses are also essentially those of ichthyol. Guiseppe W. Guidi, New York.

Quinine Ethyl Carbonate-Merck.—First introduced as euquinine. It is almost insoluble in water, and is therefore practically tasteless. Its actions, uses and dosage are essentially those of ordinary quinine salts. Merck and Co., New York (Jour. A. M. A., Feb. 1, 1919, p. 345).

Biologically Reactive Food Proteins.—The purified and concentrated proteins of foods. These protein products are used in cases in which persons show a peculiar hypersensitiveness or idiosyncrasy to certain articles of the dietary, both to determine to which food it is due and to immunize the patient against the effects of the food. The test for sensitiveness is made by scarifying the skin and rubbing in the protein to be tested, either dry or in solution. When the production of an urticarial wheal identifies the protein to which a patient is sensitive, the patient is desensitized by administration of gradually increasing amounts of the offending food of the isolated food protein itself.

Cow's Milk Allergens-Squibb.—A powder representing all the soluble proteins obtained from cow's milk. It is a fine, white, odorless powder, somewhat soluble in water and physiological sodium chloride solution. Cow's milk allergens-Squibb has the actions and uses of Biologically Reactive Food Proteins. E. R. Squibb and Sons, New York.

Egg Allergens-Squibb.—A powder representing all the soluble proteins contained in hens' eggs. It is a fine, white powder, odorless, somewhat soluble in water and physiological sodium chloride solution. Egg Allergens-Squibb has the actions and uses of Biologically Reactive Food Proteins. E. R. Squibb and Sons, New York.

Wheat Allergens-Squibb.—A powder representing all the soluble proteins contained in wheat. It is a granular powder nearly white, odorless, somewhat soluble in water and in physiological sodium chloride solution. Wheat Allergens-Squibb has the actions and uses of Biologically Reactive Food Proteins. E. R. Squibb and Sons, New York (Jour. A. M. A., Feb. 22, 1919, p. 573).

Tannin Albuminate Exsiccated—Merck.—A compound of tannic acid and albumin thoroughly exsiccated and containing about 50 per cent tannic acid in combination. It was first introduced as tannalbin. The use of tannin albuminate is based on the assumption that the tannin would pass the stomach largely unchanged, and thus the astringent action be exercised in the intestine where the compound would be decomposed by the intestinal fluid. It is used in diarrhea, particularly that of children and in phthisis. Merck and Col, New York.

Tannin Albuminate Exsiccated—Merck Tablets, 5 grains.—Each tablet contains 5 grains tannin albuminate exsiccated, Merck. Merck and Company, New York. (Jour. A. M. A., March 1, 1919, p 653).

Neoarsaminol.—A brand of neoarsphenamine complying with the N. N. R. standards (see New and Nonofficial Remedies, 1919, p. 41.) Neoarsaminol is supplied in tubes containing, respectively, 0.15 Gm., 0.3 Gm., 0.45 Gm., 0.6 Gm., 0.75 Gm. and 0.9 Gm. Neoarsaminol is manufactured under the "neosalvarsan patent," by license of the U. S. Federal Trade Commission by the Takamine Laboratory, Inc., New York.

Swan's Mixed Acne Bacterin (No. 41).—Marketed in 6-Co. vials, each cubic centimeter containing 25 million killed acne bacilli and 500 million killed Staphylococcus pyogenesalbus. For a discussion of "Acne" vaccine, see New and Nonofficial Remedies, 1919, p. 296. Swan-Myers Company, Indianapolis, Ind.

Swan's Pertussis Bacterin (No. 38), (Prophylactic).—Marketed in packages of three 1-Cc. vials, containing, respectively 50, 100 and 200 million killed pertussis bacilli. For a discussion on Pertussis Bacillus Vaccine, see New and Nonofficial Remedies, 1919, p 287.

Swan's Mixed Furunculosis Bacterin (No. 39).—Marketed in 6-Cc. vials, each cubic centimeter containing 500 million killed Staphylococcus pyogenesaureus and 500 million killed staphylococcus pyogenes-albus. For a discussion of staphylococcus vaccines, see New and Nonofficial Remedies, 1919, p. 289.

Swan's Typhoid-Paratyphoid Bacterin (No. 42) (Prophylactic).—Marketed in packages of three 1-Cc. vials, one vial containing 500 million killed typhoid bacilli and 250 million each of paratyphoid bacilli A and B, while the other two vials each contain one billion killed typhoid bacilli and 500 million each of paratyphoid bacilli A and B. For a discussion on Typhoid Vaccine, see New and Nonofficial Remedies, 1919, p 292 (Jour. A. M. A., March 22, 1919, p 863).

Etiology of Epidemic Poliomyelitis.

Tsen (Jour. Exper. Med., Sept. 1918) has isolated streptococci from the central nervous system of monkeys dead of poliomyelitis and also from the central nervous system of monkeys dead of other causes, as well as from the brains of normal rabbits. He states that streptococci isolated from poliomyelitic monkeys do not differ from those isolated from monkeys and rabbits dead from other causes. An etiological relation has not been established between streptococci and poliomyelitis. At several times an organism has been isolated that was similar to the globoid bodies culturally, morphologically, and in staining reaction, but the author has not been able to carry it along for more than three generations. The pathogenicity of these organisms has therefore not been tested on monkeys. He has not been able to produce typical lesions of poliomyelitis in rabbits by the injection of either the poliomyelitic virus or streptococci.

Severe Nosebleed Complicating Pregnancy.

(American Journal of Medical Sciences, Jan. 1919)

Solomons (Med. Press, 1918, No. 105, p 123) described the case of a young woman, pregnant for the first time, who had had several slight attacks of nosebleed. When seen by the writer the nose was bleeding profusely. The blood-pressure and urine upon examination were normal. Treatment with coagulose, adrenalin and gauze packing were unsuccessful for five days. About two days after the nose was tamponed, labor terminated in the birth by forceps of a dead female child weighing 5¾ pounds. The child was slightly macerated. On the following day the packing was removed from the nose after having been in place about two and a half days. During the first week of the puerperal period the patient had slight fever, but was able to leave the hospital at the end of the third week.

The popular question, "What is there in it for me?" which greets every business proposal, and though perhaps unspoken, every other proposition that is presented to us, is a fair enough query. Even religion and benevolence must answer it. We are Christians because we see some great and lasting benefit in what the gospel offers. We are benevolent not only for our poor brother's sake, but for our own as well, and we may not vaunt our disinterestedness to highly. We never travel far along the right road without finding that its rewards are richer than any other. We take no generous thought for others without soon learning that there is greater gain in sharing than in keeping.

The women of Germany are very eloquent in their appeal to their "sisters" in America to use their influence to keep Germany from starving. The appeal would find a readier sympathy if it were on record that the German women had appealed in behalf of the women and children of Belgium, France, Serbia and Poland where the Germans were starving them to death.

Private Library.
DR. C. C. HICKMAN.

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Oration in Medicine.*

B. W. Christie, M. D., Omaha.

But a few years ago we were free lances in this world of ours. The physicians especially those that have battled along without a partnership or the control of a hospital, have been free to do as our consciences and our desires willed us. We were obligated to none and nobody was paying us a salary. Of course, we owed an obligation to the public but we also felt that the public owed us something, and in the end we were as independent as it is possible for the human being to become. Soon the great conflict drew us into its vortex and we find ourselves a part of the state with certain great obligations to us, and it was with considerable shock that we awoke to the full realization of this.

Our fealty has just begun. The physician of yesterday, I remember, used to tell me that the Homeopath devoted a chair in their college to the science of handling the patient. How to charge; in fact, all the practical details of making a living out of the practice of medicine. This was the occasion of a great deal of fun and derision on the part of the Allopath of that day. Why papers on the subject of economic and political aspect of medicine should be tabooed or why the students should not be spoken to of these things is very strange to me. To be an honorable practitioner of medicine in an ethical way is a difficult economic problem and there is no reason why we should not handle the proposition without gloves.

We are now in a great transition period. We are approaching the ultimate ideal goal of the body politic. It will be years before we reach our destination, but the state is going to take over more and more of our individuality and compel us to do what is best for the common good. Whether we want it or not, we are going to be made to change our method of practicing medicine. If we don't make or superintend the changes, the state is going to do the business for us. Those of us who live in the cities are already seeing the "handwriting on the wall." Contract work is more and more creeping in and with the great advance of attempts at preventative medicine coming with it, it is very hard to combat. The only recommendation that contract practice has is its attempt to teach employees to keep well and avoid accidents. The layman is beginning more and more to realize that most diseases are preventable and that the cure and alleviation of disease by therapy and surgery is far from ideal, and, as a consequence, public sentiment and the government are solid back of disease preventative measures.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Physicians, as individuals, have the confidence and affection of their patients and the community, but as a profession, their influence is small and their advice of small account. Physicians, as individuals, know full well the place that preventative medicine plays in the near future. But we must not let the lay public bring about our changes, the socialization of our profession. Let there be no illusions. If we do not point out the way and devise the plan, most assuredly we will be forced into a way devised for us and by those who do not understand our profession and its needs. We are at the parting of the ways.

Let us trace the history in older lands than ours of this so-called socialization of medicine. In England, early in the 19th Century, mutual aid societies were formed among wage earners to insure themselves against various disasters which may happen in the lives of people whose income is such that the bare necessities of life practically consume their entire earnings. These were called "Friendly Societies." They became popular. They contracted with medical advisers for entire groups at so much per head per year. Competition, together with the business acumen of the men in charge of these societies, brought doctors wages down to a low level. England's first "Employers Liability Act" was passed in 1880 and the last "Workmen's Compensation Act" in 1906. This legislation grew out of the "Friendly Societies" and was similar to similar acts in this country which were copied from the English. Then from these sprang the "National Insurance Act" of 1911.

Briefly stating the main points of this act, we find that it insures all employed persons, British or aliens, from 16 to 70 years of age, engaged in some regular occupation, who are wholly or mainly dependent on their earnings, provided their total income does not exceed 160 pounds or about $800 a year. This act has its little additional joker: to-wit, any person previously employed or insured for five years may, subsequent to this employment, voluntarily be insured without limitations to income. Something over 30% of the total population in England is insured under this act. The pay fixed by the government per head per year, including professional services and medicines, is $1.60. This whole affair was devised and administered not by the medical profession, but by outsiders who had fixed a much smaller amount per head per year and it was only by the united though late effort of the profession, that the "princely amount" of $1.60 per head per year was obtained. The old objection to contract immediately obtained that the people could not choose their own doctor and then arose the so-called "panel" whereby any respectable physician can signify his willingness to serve on a panel and then the insured person can pick their doctor. In 1914, 13,643,000 people were insured and there were 16,000 doctors on the panels. About one-half of these doctors had 500 persons on their list; 30% had from 500 to 1,000; 16% had from 1,000 to 2,000 and 4% had more than 2,000. These latter saw as many as 80 persons in their surgery of an evening. This makes the practice of medicine a matter of physical endurance. In Germany, there has been an exactly analogous condition, but to prevent the injustice and demands of the societies, the medical profession had to organize into a regular Trade Union, the "Leipziger Verbund" to which 23,800 or 95% of the doctors in Germany belonged. There have been several times long continued strikes on the part of this organization, but in spite of this, the average amount paid per head per year under their compulsory insurance act was $1.37. Between 1884 and 1913, compulsory health insurance had been established in Germany, Austria-Hungary, Luxemburg, Norway, Servia, Great Britain, Russia, Roumania and about one-third of their population withdrawn from private practice. It has been partially adopted in Belgium, Italy, France and Spain, while subsidized health insurance covers a large proportion of the population of Sweden, Denmark and Switzerland.

England has become aroused to the fact that the medical profession must present some united, studied plan to the body politic and obtain a voice of its own in the administration of its government or it is going to be reduced to the position of painters or bricklayers. The first step the English profession has united upon is that they must have a cabinet officer, necessarily a physician, who will direct the Ministry of Public Health. Some of the profession believe in the immediate centralization of medicine, i. e., the complete governmental control of all medical institutions, hospitals, dispensaries, etc., together with their building and maintenance, also the paying of all doctors by the state, whether in a public or a private practice. Others believe in some such plan as that devised by Sir Bertrand Dawson, the Cavendish lecturer of last year. He says the needs of the medical profession are as follows:

> "One is forced to the conclusion that medical services must have some kind of state aid and central control, that for their efficiency they need co-ordinated effort installed in specially equipped institutions. We thus reach, as I would suggest, by the irresistible logic of facts, the following conclusions:
>
> 1. State Aid Central Control.
> 2. Co-ordinated effort-team work.
> 3. Development of institutions specially designed for diagnosis and treatment, styled for brevity institutional treatment.
>
> To the foregoing I will add a fourth—that curative and preventative medicine are no longer separated in accordance with any sound principle and should be brought together in thought, teaching and organization. There is nothing revolutionary or new in these propositions and the directors of progress in recent days have conformed to them. What is needed is their wider recognition and systematic application.

To explain the details of his scheme, Sir Bertrand Dawson took two whole evenings, so that I will not attempt to epitomize his masterly effort in our short time, but merely to point out a moral to our tale. The master minds of the English profession are wrestling with the economic problem of their socialization. We are doing nothing.

Education was at one time unorganized and dependent upon voluntary effort. Health is more fundamentally important to the community because without health we cannot properly use our trained powers. The state is beginning to see the need of and benefit of organized effort and systematic control of public health. And if the medical profession does not take the steps to properly control the socialization of its profession, the body politic will and then we will have to fight for our very existence. It behooves us then to have a Ministry of Public Health in our central government and also for us to more properly understand and study our economic relations towards the body politic.

Bibliography.

British Medical Journal, Saturday, July 13, 1918, pages 23-27.

British Medical Journal, Saturday, July 20, 1918, pages 56-58.

The Lancet, Saturday, July 20, 1918, pages 85-90.

Boston Medical and Surgical Journal, June 13, 1918, pages 835-847.

Review of the Operative Surgery Done in Base Hospital No. 49.*

A. C. Stokes, B. Sc., M. D., Omaha.

I wish to take this opportunity to thank the medical profession of the State of Nebraska for the support they gave us in the organization and maintenance and successful history of Base Hospital 49. We greatly appreciate all you did for us. I am sorry Colonel Banister is not here, for we certainly appreciated his work all the way through. He stood by and helped and advised continuously until the day we left this country. We appreciate that above all things.

I am afraid you will be disappointed in hearing a report of the surgery of this hospital on two grounds: First, the number of cases which we actually operated upon; and second, the character of the cases which we operated upon. The impression abroad is we worked in vast numbers, and we did; but if you remember Base Hospital 49 began operating about September 12, and our new cases ceased to come about November 11, you will see we hadn't such a very long time in which to operate.

During that time we operated upon 614 cases, making an average of twenty cases per day. This does not include the cases in the nose and throat or in the dental department, because I have not the record of those cases.

This report is also probably not so very correct, because it is very difficult to get reports correct. A great many cases were forced on us and we did the best we could.

This short paper which I have is a synopsis of the cases that are reported in the final report from the Surgical Department of Base Hospital 49 to the chief surgeon of the A. E. F., and the part I have here only refers to them. A consecutive and continuous history of any given case in the war is a very difficult thing and has not yet been written—

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

that is to say, a history from the time the wound was incurred until the patient was either discharged or sent back to the United States for reconstruction, is very difficult to get, and it will never be obtained until those records are received from the Surgeon General's office, and reports from the different hospitals through which they went. So that you see my paper will be a desultory sort of thing, at best.

I can give in this paper only a general review with the salient principles which governed our action in the operative cases in base hospital forty-nine in France.

Closures.

The wounded men were first taken to the nearest mobile or evacuation hospital and there a debridement was done. This consisted in making rather large incisions over the areas of the wound and removing all the devitalized tissue, muscles, particles of bone, clothing, or foreign bodies that were found in the wound. Then the wound was left open, a dressing applied and the cases rapidly evacuated to the base. This left a large open infected wound. Upon the arrival at the base these cases in which debridement had been done in a preceding hospital, were at once subjected to treatment by Carrel-Dakin's method. As soon as practicable, the bacteriologist made bacteriological smears and cultures, determined the kind of microorganism present and the number. This process was continued by the bacteriologist as often as he thought necessary until a report came back from the laboratory that the wounds were sterile. It was then reported to the chief of the surgical service and the cases scheduled for closure. The wounds were oftentimes those in which muscle had been removed in immense quantities, the skin had retracted and there was a large open area varying from three to twenty-four inches in length and from one-half to ten inches in width. The proposition was to loosen up the edges of the skin and draw them together over these deep granulating cavities to eliminate all dead spaces, to remove with the curette the superficial granulating surfaces, dissect up the skin and draw it together. We performed three hundred and five operations of this kind, of these thirty-one or about ten per cent broke down after the operation. Of the thirty-one, however, only one required further operation (they were streptococcic wounds) so that even though thirty-one cases did become slightly infected and prolonged the healing, yet they healed without further operative measures. The wounds were in our hospital an average of nineteen and eight-tenths days before operation and were healed on an average of eleven and four-tenths days, thus shortening the healing process by many weeks, since it would require often times months for such large cavities to completely granulate and close. It was only necessary for us to make secondary skin graft in one case. We were always able to draw the edges of the skin together either by means of sliding flaps or directly. Seventy-six and four hundredths per cent of these cases were done with local anesthesia by infiltrating the skin. Our aim was to study the clinical signs and if possible determine the time of closure by these signs. At the time of the signing of the armistice we were becoming expert enough to recognize the time for closures so that we might eliminate as far as possible the labor of the bacteriologist, and Colonel Crile was anxious that we develop this observation power by the study of the wound. This method of procedure should be carried into civil practice where it is necessary to make large wounds for drainage or for any other purpose where the wound cannot be closed and large gaping granulating wounds remain. Capt. Potts made very successful use of this method of treatment in his complete mastoids and saved the patients from unsightly scars behind their ears, and much time in closure by ordinary methods.

Cranial and Cerebral Injuries, Including Scalp Wounds.

We had seventy in our hospital. Some of them were very simple, merely flesh wounds, others were wounds of the cranial bone and others were fractures. Of this number four were followed by abscess of the brain, every one of which died. They were all operated upon and abcess located in three cases, but patients did not recover. Practically all the brain work should be done in the evacuation hospitals. If it is left for the base, the infection in the brain has become so general that it is impossible in most cases to save the life of the patient. Cushing's mortality in his operations in the evacuation hospitals by the technique described by him varied from about fifty-four and five-tenths per cent in his early cases to twenty-eight and eight-tenths per cent in his later cases by improved methods and technique. In this series; cases of fracture of the skull never reached the base. We operated upon four cases of depressed fracture with no mortality.

Peripheral Nerve Wounds.
(34 cases).

We operated upon only two in Europe. We did no operating on peripheral nerves at the base unless they were free from infection, but sent them all to the United States where they were operated upon from two to five months after being wounded. The chief interest that centers about peripheral nerves is the diagnosis, and I saw many cases later in reconstruction hospitals in the U. S. where complete interruption of the nerve had not been diagnosed. This was particularly true of the sciatic nerve and the median nerve. I had the privilege of studying and operating upon or assisting to operate upon about seventy-five of these cases in the reconstruction hospitals in this country.

Spinal Injuries.

Seven cases of injuries to the spinal column are recorded, three died, on two we performed laminectomies. In both cases the spinal cord was injured beyond recovery and the patients finally died. The remaining cases of wounds to spinal column did not injure the spine sufficiently high to produce death. We had one wound of the conus and one of the cauda equina.

Wounds of the Chest.

Of this class of cases we received twenty-seven. One died. The only interesting class of cases under this heading are those in which the wound either perforated or passed into the lung. Cases of severe hemorrhage never reached the base until the acute stage was passed so that our cases consisted of those in which hemorrhage had subsided. They were those in which the lung, had been wounded intrathoracic hemorrhage had occurred and the pressure of the blood within the chest acted as a compress and stopped the hemorrhage. These patients were pale, weak and emaciated. They had a high pulse, a rapid respiration, and had that facies of impending danger. Major Bridges and I studied these cases together and we both came to the conclusion that the best method of procedure was that of expectant treatment which was carried on by Major Bridges in the usual way. Operation was not done until late and we were sure that there was localized pus which we could reach. Most of them however did not require subsequent operation and our records showed that the tract of the missile was infected and the lung filled with multiple abscesses and drainage was useless in large percent of cases. Practically the entire surgical force of the A. E. F. followed this procedure. The operative treatment recommended by Moynihan is only justifiable to save life from hemorrhage and must be performed at the evacuation hospital. The mortality of cases from acute hemorrhage was very light even at the front without operation.

Wounds of the Abdomen.

Of this class our records show thirteen cases operated upon with one death. Gunshot wounds of the intestines were operated upon at the base and our cases were those of secondary fistulas acute ileus and present no new features.

Amputations.

We performed twelve amputations. Of these only three were Guillotine operations, the remainder were flap operations. The three in which Guillotine operations were done were all for trench foot, the remainder were closed with drainage. Three high thigh amputations were made for compound fractures and infections of the thigh. Of the twelve amputations one died, which was an amputation of the thigh in its upper one-third.

Foreign Bodies.

Twenty cases of foreign bodies were operated upon. We learned much about the location of foreign bodies with the X-ray. We were so situated that we operated under the fluoroscope. This of course is the ideal method, the technique however is fairly difficult. The only one of interest in this series was one in which we attempted to remove a bullet from the back of the pericardium.

Secondary Debridement.

Of this we performed sixteen cases in which it was not completely performed at the evacuation hospital. The results were all satisfactory.

Secondary Hemorrhages.

We had ten cases of secondary hemorrhages, six of which died. The mortality from secondary hemorrhages seems unbelievable but when secondary hemorrhage occurred it occurred following a very virulent, extensive and dissecting infection. In one case we ligated the artery involved three times and each time it broke down and bled again. Unless the artery could be ligated far outside the wound and infection, the ligatures frequently did not hold. Those cases which died were as follows: Left femoral wound in the groin; superior gluteal wound in the buttock; left subclavian wound in the chest; left popliteal; right internal maxillary wound at angle of the jaw; right femoral wound in the groin.

Post Operative Deaths.

We had sixteen post operative deaths. Of this number there is nothing of interest excepting that already stated in the secondary hemorrhages.

Fractures.

A tabulated list of our fractures is as follows: (All compound fractures):

Femur	32
Humerus	33
Tibia	25
Fibula	12
Ulna	15
Radius	15
Left Foot	10
Right Foot	4
Left Hand	4
Right Hand	9
Clavicle	3
Scapula	4
Pelvis	12
Spine	7
Skull	4
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The Balkan frame was used throughout and each fracture was considered a law unto itself so far as possible, the attempt being made by different forms of splints to so place the bone fractured that it was in allignment and did not override. At the same time that the fracture was held in position it was necessary to use some sort of antiseptic and in most cases the Dakin method of treatment was followed. Perhaps it might not be out of place here to make a statement or two regarding our impressions of the Dakin treatments. First, we are convinced that the Dakin treatment is a valuable treatment for early acute infections. The improvement in an infected wound treated by Dakin's method for the first two weeks or so is marvelous. I cannot say that after this time I was able to see any marked improvement in old chronic infections. Sinuses healed up no more rapidly so far as I was able to judge by the use of Dakin's than without it. It is so difficult to carry out. The Thomas splint was the most valuable splint. Lieut. Thompson of Lincoln had direct charge of our fractures and invented some very ingenious splints which upon his return I hope he will show us. The mortality of these fractures was practically none except on fractures of the thigh. Amputation became necessary in these cases to prevent extension of this virulent dissecting infection. Many of these compound fractures made a good recovery, yet a very large percent of them were followed by chronic discharging sinuses and many of them are still in our reconstruction hospitals, where a large sequestrum must be removed and bone grafting done before these limbs will be at all useful. Practically all of the fractures of thigh were complicated by extension of infection into bone and an osteomyelitis.

Gas Gangrene.

We saw four cases of gas gangrene all of which died. Three of them were due to the bacterium of Welch and the fourth to the bacillus of malignant odema.

Diphtheria Infection of Wounds.

This occurred in four cases, all of which recovered.

We performed colostomy twice for wounds of the rectum. One case died and the second recovered and was evacuated to the United States.

Gas Burns.

We had one hundred and eight cases of gas burns, all of which recovered and none presented a particularly interesting problem. We treated them with the parafine mixture recommended by Tarnoskowy of Chicago. We were not entirely satisfied with this treatment but with the rush of work it was impossible to treat them individually as burns should be treated. They always became infected and made the ordinary recoveries of burns with contractures, etc.

In addition to the above war surgical cases we performed seventeen operations for appendicitis, twenty-two hemorrhoidectomies, seventy cases of drainage for infections, twelve herniotomies, twelve varicose vein operations and three aneurisms.

The Treatment of Syphilis With Mercurialized Human Serum.*

Carl H. Bastron, M. D., Lincoln.

Mercury is one of the oldest and no doubt the most effective remedy in the treatment of syphilis. Administration by mouth, by inunction, and hypodermatically are the methods ordinarily employed, and each of these has its advantages and disadvantages. Oral administration is the least effective method, since not enough mercury can be given in this way to "saturate" the system, as it were, without causing gastric symptoms. Inunction is easily as effective as is hypodermic administration, but the difficulty with the first is that, in order for it to be carried out properly in every case, it should be administered by a trained "rubber" while the difficulty with the second method lies in the discomfort to the patient. When salvarsan made its advent it was hoped that a sure cure had at last been found for the third plague. For salvarsan has the decided advantage over the mercurial treatment that it has to be administrated by the physician, and thus puts the patient under closer observation by the physician. It has the further advantage of intravenous injection. But salvarsan has not proved a sure cure for syphilis, and at best only occupies the place of an adjunct in the treatment of this disease, mercury still taking the leading place. The question now presents itself: "If mercury could be given intravenously, in large enough doses, would it not surpass salvarsan in the treatment of syphilis?" If mercury is a sure cure for the syphilitic infection, which "606" is not, and if it can be given intravenously without untoward results, and in therapeutic doses, and if this method can be adopted by the general practitioner, then the answer will be that mercury thus administered is not only superior to salvarsan, but it alone is sufficient for the complete cure of syphilis. To arrive at an answer to this question, i. e. whether mercury, if given intravenously in large enough dosage, is superior to arsphenamin in the treatment of syphilis, we must subject this method to a practical test in a large series of cases, including all types and stages of the disease. The literature which has been at my disposal shows an almost complete lack of carefully controlled cases in which this method has been employed.

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Literature on the Subject.

The first reference to the intravenous administration of mercury the writer found in an abstracted paper by Thompson in the American Journal of The Medical Sciences, Aug.'15, page 298. This is what the abstracter quotes from Thompson's article: "A method of administrating mercury intravenously without the unpleasant results (plebitis, etc.) following watery solutions. Thompson makes use of the mercuralized serum. The serum is prepared by adding an aqueous solution of mercuric chlorid to blood serum, so that 7cc of the mixture contains one-third of a grain of mercuric chlorid. Mercury albuminate which at first precipitated is completely dissolved by adding an excess of serum, and is kept in solution indefinitely by heating the mixture at 55°C on the water bath for 30 minutes. Mercurialized serum can be kept indefinitely in sealed ampoules. Thompson gave 1.75cc (gr. 1/12) of the serum as initial dose and gradually increased to 7cc (gr. 1/3). Symptoms of mercurialism developed after comparatively small doses had been given. Thompson says this is not the method of choice in all cases of syphilis, but is so where quick results must be brought about.

R. L. Spittel (Practitioner London, Oct. 1918, page 212) has given over 5000 intravenous injections of a modified Donovan's sol. in syphilis and yaws. Of this he gives in adults 8cc. gradually increasing to 15cc. Four to six injections at intervals of four to seven days constitute a course; several such courses are given at intervals of four to six weeks. With cautious increase in the dose the reactions are negligible; heart and kidney disease are no contra-indications. Some of the immediate symptoms that may follow are chill, fever, malaise, headache, vomiting, pains and burning sensations in the body. Later effects are gingivitis and salivation, coryza, lachrimation, diarrhea and griping.

E. F. Sanz (Medicina Ibera, Madrid, Aug. 18, 1918, page 187), reports great benefit in two cases of general paresis from intravenous injection of neoarsphenamin and mercuric cyanid. One was given 30 injections of the mercury preparation and 8 c c of neoarsphenamin, in graduated doses, with potassium iodid internally.

Mercury has been given intravenously in diseases other than syphilis. E. D. W. Creig and W. D. Ritchie (India Journal of Medical Research, Calcutta) report on the treatment of 50 cases of chronic malaria with enlarged spleen. They administered intravenously 11 cc. of a 1:1000 sol. of mercuric chlorid in normal salt sol. on alternate days, giving 8 doses.

G. Terrarius (Riforma Medica, Naples, Nov. 9, 1918, page 893) advocates in grave cases of influenza a daily intravenous injection of 0.01 Gm. mermuric chlorid in 1 cc physiologic salt solution. He does not consider grave albuminuria a contraindication to this treatment, and claims it improves instead of growing worse.

J. A. Perez (Medicina Ibera, Madrid, Aug. 3, 1918, page 130), gives intravenous injections of 1:1000 sol. of mercuric chlorid in physiologic serum* in the treatment of peurperal sepsis. He has thus treated 200 patients, giving 2 cc the first day, half in the morning and half at night; the second day 4 cc, fractionally, and so on up to 10 cc. on the 5th day, continuing with this dose until the fever drops, then keeping on with half the dose. No by-effects of any importance were observed in any instance.

Preparation of the Serum.

Several ounces of blood are removed from the patient by venepuncture, with a moderately large needle, into a sterile flask, allowed to clot for one hour at room temperature, and kept on ice over night to allow the serum to separate. The serum is then collected in sterile centrifuge tubes, cleared by centrifugalization of all corpuscles, and the clear serum transferred to a sterile glass—stoppered graduate of 50 cc. or 100 cc. capacity. A solution of mercury bi-chlorid in normal saline is then added to the serum, so that 6 or 7 cc. of the resulting mixture will contain gr. 1/3 of mercury bi-chlorid. On adding the mercuric chlorid a flocculent precipitate is formed which readily dissolves on slightly shaking, and is kept permanently in solution by heating the mixture on the water bath at 55°C for one-half hour. The mixture is then filtered through cotton and distributed in ampoules in amounts containing gr. 1-12, gr. 1-9, gr. 1-6, and gr. 1-3 of the mercuric chlorid. The ampoules are sealed in the flame and are ready for use. The serum keeps indefinitely. In serum containing traces of hemoglobin or a few corpuscles, a slight precipitate will collect at the bottom of the ampoule, which can be eliminated when the serum is used by drawing off the clear serum with a long hypodermic needle.

Administration.

The serum bi-chlorid mixture is injected intravenously every third to every fourth or fifth day, or even as often as every day, depending on the urgency of the case. A safe initial adult dose is gr. 1/12. If symptoms of mercurialism develop, the second dose should not be further increased, and time should be given for the symptoms to subside, when the dose may be repeated, or a smaller dose given. If no untoward symptoms develop, gr. 1/9 may be given as the second dose, or second and third; then two doses of gr. 1/6 each, when the final dose of gr. 1/3 can be injected if everything goes well, and repeated three or four times. This constitutes a course and the patient should then be allowed to rest from four to six weeks, when a Wassermann test may be made and another course given even though the Wasserman reaction may be negative. It seems advisable to give at least three, and better four or five such courses with intervals of rest. The case should then be kept under observation for at least a year after the last course, and the treatment reinstituted if the Wasserman becomes positive or symptoms of the disease develop.

Reactions.

In several cases symptoms of mercurialism—slight bleeding of the gums, salivation, aching and looseness of the teeth—developed after the initial dose of gr. 1/12 mercuric chlorid. These symptoms began one to three days after injection, and in no case were they very severe, and were not aggravated by a second dose of gr. 1/12 two to three days after the symptoms had subsided, these symptoms usually lasting only one to two or three days. Immediate reactions, such as fever, chills, nausea and vomiting, griping and diarrhea, did not occur in any of the cases treated. Locally, severe pain may be caused if the solution is injected extravenously into the areolar tissue, an accident which happened in two cases and caused so much suffering in one case that cocaine had to be injected into the area of extravasation to relieve the pain. It is advisable to allow a few drops of blood to flow back through the needle before it is withdrawn, or inject a few cc. sterile saline solution, and thus wash out the bichlorid, as otherwise some of the serum that remains in the needle will often be deposited along its path in the areolar tissue and cause slight transient discomfort.

Indications, Contraindications and Advantages Over the Other Methods.

This method of mercury administration is indicated wherever mercury is of benefit acting systemically. The mercury is introduced directly into the blood stream in a form which does not undergo changes while in circulation, and does not alter the blood chemically as other aqueous solutions of both mercury and arsphenamin may do. The danger of blood clot formation is thus very remote. There are no contraindications that are not shared to even a greater extent by other intravenous preparations. Anyone who is skilled in intravenous injections and is able to prepare the serum, can employ this method with far less danger to his patient than accompanies the administration of arsphenamin, which is used so extensively by the general profession today.

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*Salt Solution.

Its advantage over the arsphenamin brand of preparations is that it requires a much simpler technic of administration; that it is practically free from alarming reactions, that it constitutes a cure in itself, not necessitating the supplementary action of other drugs. It is also cheaper to the patient and can be given at more frequent intervals. The only disadvantage seems to be that a greater number of doses must be given in a so-called course, but this is no serious drawback, even when the cost to the patient is taken into consideration.

The obvious advantages this method has over intramuselar and sub-cutaneous injections are: Freedom from pain, quicker action, the dosage is absolutely under control; the patients rarely object after the first injection. It has the following advantages over inunctions: It is less objectionable to the patient, acts more quickly, its dosage is under control, and the patient is under closer observation by his physician. A seeming drawback to this as well as other methods of intravenous medication is the occasional difficulty of finding a vein, as in fat subjects, children, and negroes. If a vein cannot be located in the epitrochlear space, the writer has often succeeded in finding a fairly large vein on the radial side of the wrist by placing the turniquet just above the wrist. Injections are made with an all-glass luer syringe and a small hypodermic needle. It is preferable to use a very small needle, as it will be less painful to the patient, and the danger of too rapid injection is prevented. Other advantages in using a small needle are that smaller veins can be injected; the needle enters the vein easier, since less force is required to push the needle through the skin, thus preventing slipping of the vein from under the needle; and a small needle is not so apt to lacerate the vein as a large needle. Laceration of a vein may lead to the obliteration of the same, especially if some of the bi-chlorid mixture has been injected, and it always leads to extravasation of blood and a black and blue mark. In children it is better to use inunctions, although it seems a safe procedure to inject the serum into the longitudinal sinus, making sure the needle is in the sinus. The writer is of the opinion that this is the best, if not ideal, method of treating syphilis in all its stages, the arsphenamin brand of preparations not excepted. Bearing in mind the doubt that still beclouds the intraspinal treatment of syphilis, and the severe reactions that often follow it, and with the slight improvement obtained, the writer does not hesitate to proclaim the method just described as the method par excellence in all stages and types of syphilis. The intravenous injection of mercurialized serum acts fully as quickly as arsphenamin in clearing up symptoms, and the consensus of opinion of both old and present-day syphilographers places mercury in a unique position in the theraphy of syphilis. The method is especially applicable in cases in which quick effects are sought.

The brief review of literature shows that intravenous injection of mercury is of value in diseases other than syphilis, but the writer has not had sufficient experience to deal with this phase of the problem.

Report of Cases.

Case No. 15. Mrs. C. A. D., aged 25 years, American, conducts rooming house. Was first seen February 8, 1919. Complained of a fading copper colored maculo-papular eruption of three weeks duration. No other signs or symptoms of syphilis except a double plus Wasserman reaction. Has no knowledge of primary sore. Received eight intravenous injections of mercurialized serum at two to three day intervals, namely: Gr. 1/12, 1/9, 1/6, ¼, ¼, ⅓, ⅓, ⅓, covering a period of 22 days. The Wassermann reaction became negative before the fifth injection and remained so while under observation, the blood being tested weekly. Patient failed to return at the end of six weeks. No reactions followed any of the injections.

Case. No. 19. Mr. F. B., age 27, married, American, a teamster, when first seen March 7, 1919, had phimosis with multiple chancroids on prepuce and glans. Five weeks previous he developed a painful sore on the prepuce, others appearing later and leading to phimosis. Wasserman 4 plus. Received 14 intravenous injections of bichloride serum in 34 days as follows: Gr. 1/12, 1/9, 1/9, 1/6, ¼, ¼, ⅓, ⅓, ¼, ¼, ⅓, ⅓, ⅓, ⅓. Salivation, gingivitis, griping and diarrhea after the eighth injection necessitated a rest for three days and a diminished dosage for two injections, when the maximum dose was resumed without further symptoms of mercurialism. The Wassermann reaction remained 4 plus throughout the course of active treatment. Two tests during the five weeks of rest following these injections also were 4 plus. Treatment was resumed May 5th with gr. 1/6 bichloride and rapidly increased to gr. ⅓, receiving three injections a weeks. No symptoms of mercurialism have arisen thus far, and the Wassermann reaction is still 4 plus, the blood being tested at weekly intervals.

Case No. 20. Mrs. A. H., American, clerk, first seen March 3, 1919, complained of profuse uterine hemorrhage following a self-induced abortion, pregnant 6-8 weeks. March 7th found mucous patch on cervix and positive cervix smear for gonococcus. Wassermann 3 plus. Received nine intravenous injections of mercurialized serum in 17 days, of Gr. 1/12, 1/9, ¼, ¼, ¼, ⅓, ⅓, ⅓, ⅓, with slight salivation and gingivitis after the sixth injection. Wasserman negative after the sixth injection and remained so during the rest of the course, as well as six weeks later, when the second course was to be commenced, but was postponed for another six weeks. The mucous patch on the cervix cleared up during the second week of treatment, without local medication except douches.

Case No. 21. Mrs. O. M. B., age 40, American housewife, married second time. Four healthy children with first husband, one with second, a year after marriage; this child, a girl of seven, has typical Hutchinsonian teeth and a saddle nose. She has not been pregnant since the birth of this child. Well until two years ago, when she gradually developed shortness of breath on exertion, palpitation, trembling, and within the past six months edema of the legs, a persistent cough, and occasionally blood-streaked sputum. When first seen March 12, 1919, her heart was decompensated, edema up to the knees, and a persistent cough. Wassermann reaction 4 plus. She was put on a milk diet, digitalis, and mercurialized serum. This patient received 17 intravenous injections of the bichloride serum in 21 days as follows: gr. 1/12, 1/9, 1/6, ¼, ¼, ⅓, ⅓, ¼, ¼, and gr. ⅓. After the seventh dose slight salivation and gingivitis set in and the dose was reduced to gr. ¼. After a week of this treatment in the hospital the patient was able to be up and about, and allowed to go home. She came to the office every day or every other day during the remainder of the course. The heart decompensation cleared up entirely during the second week, the edema disappearing during the first four days, but the patient was still weak and easily became dyspeptic. The Wassermann reaction gradually changed from a 4 plus to a 1 plus during the active treatment, and six weeks after the last injection was negative. This patient refused further treatment.

In presenting these cases I endeavored to choose those that are representative of the cases so far treated. It would be premature to draw sweeping conclusions from the limited amount of material upon which this report is based. In general it may be stated that early cases respond much quicker and more favorably to this treatment than do cases of long standing, and cases of cerebral involvement, both symptomatically and clinically.

The Practical Value of Spinal Fluid Examinations.*

M. G. Wohl, M. D., Omaha.

Since Quincke in 1891 simplified and perfected the method of spinal puncture this procedure has found its application both in the field of therapeutics and diagnosis.

As to the therapeutic value, I need only mention the well recognized benefit derived from the intraspinous administration of the anti-meningococcic serum of cerebrospinal meningitis.

The discovery of the spirochaeta pallida in the cerebral cortex by Moore and Noguchi has led Swift and Ellis to use the intraspinous route for administration of salvarsan diluted with patient's own serum. This new method of attacking directly the spirochaetae has been received with great enthusiasm, however, later reports tend to show that it is not the panacea for all forms of syphilis of the nervous system.

From histological studies of the pathology of cerebrospinal syphilis, we know that the lesion is of degenerative nature, consisting chiefly in focal infiltration by lymphocytes and plasma cells of brain and cord particularly around blood vessels and due to the occlusion of the vessels destruction of parenchymatous tissue follows. (Tabes and Paresis). We also know that the arachnoid membrane is thickened and opaque, due to focal connective tissue formation.

We fail to see how salvarsanized serum introduced intraspinally can reach the lesion that is away from blood vessels and destroy the spirochaetae that are there; secondly because of the thickened condition of the arachnoid the drug cannot possibly diffuse to cortex (in paresis) the tissue for which medication is most essential.

Our own experience with this method is limited to observation of cases treated by different men, for whom the salvarsanized serum is being prepared in our laboratory and I dare say that I have not yet seen a case that proved lastingly cured.

The interstitial type of cerebrospinal syphilis (meningovascular) because of the superficial location of the lesion is more amenble to this form of treatment; I have recently had the privilege of observing two cases of this type, both of which failed to respond to the conventional intravenous salvarsan and mixed treatments; however, after a course of intraspinous treatment they have made distinct improvement, both clinically and biologically (spinal fluid examination).

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Since the treatment of nervous parenchymatous syphilis is pretty nigh hopeless, it becomes imperative to prevent the occurence of the same.

According to old statistics, 10% of syphilitics have nervous involvement. With our newer biologic methods of diagnosis this number is materially increased. Thus Fordyce (Am. J. Med. Assn., Sept. 28, 1918) believes that 20% of syphilitics show involvement of the nervous system.

In a recent study Larkin and Cornwall (Am. J. of Syphilis, Jan., 1919) found that in a series of syphilitics without objective evidence of neuro-syphilis, 33% showed pathologic findings in the spinal fluid, i . e., 33% of those infected with syphilis are "potential candidates for one or the other forms of neuro-syphilis."

A large percent of these cases is being overlooked, for there are a great number of physicians who fail to appreciate that the removal of clinical manifestations of syphilis by salvarsan, Hg. and Iodides does not insure against the reappearance of the disease in the nervous system.

We are apt to lull ourselves into a sense of security by a repeated negative blood Wasserman test, until our patient returns with manifest disturbances of the cerebrospinal system, that are of luetic nature.

I wish to lay particular emphasis, that a negative Wassermann of blood does not in any way exclude the involvement of the nervous system. I have seen time and again a negative Wassermann of blood in cases with definite physical manifestations and definite luetic findings in the spinal fluid.

From the above consideration it is not too radical to assert that no case of syphilis should be discharged as cured until the spinal fluid has been gone over and found to be negative.

For, as Ravaut pointed out, the earliest stage of cerebrospinal syphilis is the meningeal reaction which can only be detected by the spinal fluid examination. (Ravaut quoted by Wolfsohn, Am. J. Med. Sc., 1917, p 265).

Spinal fluid examination: The points to be considered in the examination of spinal fluid are as follows:

1. Cell count (Cytology).

Under normal conditions there are from 4-8 cells per cu. mm. of spinal fluid. in inflammatory conditions of cerebrospinal system the cells are increased in number.

A cell count of spinal fluid is in our opinion one of the most important aids in diagnosis, for an increase in the cells, particularly lymphocytes, besides the pupillary changes, may be the earliest indication of syphilitic involvement of the cerebrospinal system.

An increased cell count is the response to meningeal irritation. And to this extent only may be of differential value.

Thus, in the meningomyelitic and meningoencephalitic types the cells are greatly increased, usually over 100. In true tabes the cell count is not apt to be high. In paresis the cell count is usually low, 40-60.

The cell count is rapidly influenced by treatment. We have seen it drop from 80 to 15 after 3 intravenous neosalvarsan treatments in a case of cerebrospinal syphilis. However, one must bear in mind, that fluctuations occur during treatment as pointed out by Mitchell and Darling (Jr. of Nerv. and Mental Diseases, 16, No. 2, p 689).

An increase in the lymphocytes in the spinal fluid does not always indicate the condition to be syphilitic.

Thus in tubercular meningitis and the paralytic stage of poliomyelitis there is also an increase in the lymphocytes.

In the suppurative forms of meningitis (meningococcic, streptococcic, etc.), there is increase in the polymorphonuclear cells.

2. Globulin.

An increase in globulin of the spinal fluid as detected by the methods in vogue (Ross-Jones, Pandy) is indicative of organic lesion. In tabes and paresis it is present in 85 to 95% of the cases. In purely vascular and meningeal types it is less frequently found. A point that seems to us important is that the test is either positive, when it is of syphilitic nature, or entirely negative. A slight increase in globulin is a reading of personal equation and is often misleading. The globulin is influenced by the treatment in the same degree as a cell count. It is however, not to be forgotten that a positive globulin is present in acute inflammatory conditions of non-syphilitic nature. (Tub. meningitis and in cord compression from whatsoever cause Froin Syndrome).

3. Wassermann test.

While the first two may be present in other conditions than syphilis, the Wassermann test of spinal fluid is specific of lues. We have never seen a positive Wassermann of spinal fluid in any other condition than syphilis.

Two years ago in a paper read before this society, we brought out the point, that a surgical lesion that is sufficiently large to produce symptoms must have a strong positive Wassermann of the blood, if it is of syphilitic nature (Wohl, Neb. State Med. Jour., Oct., 1917).

The same statement applies with equal, if not greater force to cerebrospinal syphilis.

The diagnosis of syphilis of cerebrospinal system should never be made upon less than 100% or a 3 plus Wassermann.

We have seen a one plus Wassermann occurring in other conditions than syphilis, particularly tumor of the brain and in normal fluid, especially is this true when large quantities of spinal fluid are used for the test. (1cc).

In a large percentage of cases of paresis the Wassermann of spinal fluid is positive in very low dilutions. With the increase in the amount of fluid used the percentage of positive reactions will increase.

The same applies to tabes and cerebrospinal syphilis, i. e., a positive reaction is obtained with spinal fluid in quantity of one cc., while the same fluid is negative when tested in small amounts.

The latter is important in differentiating the forms of neurosyphilis. If you get a positive Wassermann reaction with a small quantity of fluid, i. e., 0.1 cc., in 95% of cases the diagnosis of paresis will be correct and will be borne out by clinical symptoms and Lange-Colloidal test.

The Lange gold chloride reaction is the most useful test in the diagnosis of syphilis of the cerebrospinal system. Particularly is this true when it comes to a differentiation between paresis and other types of neurosyphilis. This test consists in a change of the red color of colloidal gold to red blue, lilac, pale blue, to complete gray or colorless, when the gold is precipitated by the addition of pathologic spinal fluid.

In paresis the highest precipitation occurs when the colloidal gold is changed to gray or colorless, even with a dilution of the fluid as high as 320. This curve is constant and the test becomes of great value in the diagnosis of early paresis. In other types of syphilis, tabes and interstitial, the precipitation of gold is not so intense and the color of the solution changes only to a deep blue.

The Lange test is more constant than the Wassermann and it may, besides the globulin be the only corroborative evidence of the existence of neurosyphilis, as illustrated in the following case.

Mr. Y. (Case of Dr. A. Young). Patient is 45 years of age, married, 5 children, developed optic atrophy with dementia; blood and spinal fluid Wassermann Neg. No increase in lymphocytes; globulin marked; colloidal gold test proven positive—typical luetic curve. Denies syphilis. Clinical history strongly suggestive of syphilis.

As to the influence of treatment upon the last two tests: In paresis both the Lange and Wassermann persist in spite of treatment. In tabes and interstitial syphilis, the Wassermann disappears first and the Lange-gold chloride last.

Conclusions:

1. A large per cent of syphilitics without objective symptoms of neurosyphilis show changes in the spinal fluid of luetic nature.

2. A negative blood Wassermann does not exclude involvement of nervous system.

3. No case of syphilis should be discharged as cured until the spinal fluid has been proven to be negative to the "4 tests."

4. The diagnosis of syphilis of the cerebrospinal system should never be made upon anything except strongly positive tests.

Discussion.

Dr. Joseph M. Aikin, Omaha.—We are to be congratulated for the privilege of hearing this splendid paper by Dr. Wohl.

I have long felt the wisdom of combining the clinical with the laboratory findings for diagnostic purposes in cases involving either the brain alone, or the brain and spinal cord. This is especially true where a patient had gone to his family physician complaining of a slight initial lesion, and from a consciousness of having been exposed was suspicious that he had syphilis. On examination his physician would say "Yes, that lesion however, is of minor importance. We will dress it with an antiseptic powder, and in three or four weeks you will be all right." At the expiration of the thirty days the lesion has disappeared and the patient confidently believes he is cured. In five to ten years or more nervous or mental symptoms involve as a consequence of syphilis acquired possibly twenty years ago.

In my instructions to medical students I advise that the absence of some initial lesions in specific infections, the more probable the subsequent symptoms involving some part of the nervous system.

Dr. Wohl elucidated the fact very nicely. A few years ago Dr. Dunn read a paper in our Douglas County Medical Society in which he emphasized the presence of heart lesions as a sequence from syphilitic infections in which the patient denied ever having an infection. The clinical picture was not definite of syphilis; but the Wassermann being positive aided the diagnostician in announcing a correct diagnosis.

By illustration I will relate very briefly three cases. The first was a man of good personal and family history who presented a clinical picture of a cerebral neoplasm. His physician suspected syphilis, which the patient denied, yet the clinical picture warranted the suspicion. A blood and spinal fluid examination made by Dr. Wohl revealed a plus one positive; but his judgment and that of his family physician, in which we agreed, was: "The man is not syphilitic but has a growth of some description in his brain." Following our examination and report, he went to the Mayo clinic. I have a letter from them corroborating our conclusions of a cerebral neoplasm nonspecific in origin; but they found a positive plus one, in both the blood and spinal fluid.

In case two a woman in whom syphilis was not suspected by the family physician and advised surgery for removal of gall stones. The surgeon doubted the gall stone diagnosis and asked me to examine the patient. I found a very positive clinical picture of syphilis. I asked her husband whether or not he ever had a venereal infection. He said, "Yes, I had syphilis and I gave it to my wife. We did not know its nature until too late, and not wanting to spoil two families, we got married." With this positive clinical picture of syphilis, the laboratory findings made by a qualified laboratory man were, "That woman does not have syphilis. There is no evidence of it either in the blood or spinal cord." When I related the conversation with the husband, he changed his mind.

The third case that had syphilis, so far as bodily appearance gave evidence was a young woman of about twenty-one, who was treated by a physician, who on clinical and laboratory findings pronounced the patient syphilitic. The patient was certainly a pitiable sight so far as her clinical picture painted the case on examination. I was unable to pronounce a diagnosis. I did not think she had syphilis. Dr. Wohl examined her blood and spinal fluid and found a weak positive. It was his judgment that with our clinical findings she did not have syphilis. That was in January of this year. Just before coming to this meeting I received a letter from the patient stating she is quite well. It was a case of hysteria with self mutilation that by scratching she had infected almost her whole body. The mental phase simulated dementia of secondary origin.

Dr. B. W. Christie, Omaha: This seems to have degenerated into a study of syphilis. I do not say this in a spirit of criticism at all.

If I may be allowed, I will discuss the subject of the paper. It is especially valuable among children. Take a young baby and you cannot depend upon its reflexes at all, and your examination of spinal fluid is a very valuable thing. I just want to point out to you that it is more valuable in early infancy than in adult life, for the reason you cannot depend upon your clinical findings. In a congenital syphilitic baby you can get a negative Wassermann. In the inflammatory conditions present in the spinal and cranial cavity, it is a valuable thing, and also as a therapeutic measure, which is sometimes overlooked by the profession. I saw a number of cases of infantile paralysis in New York, and the one therapeutic measure that did those cases any good outside of the administration of serum—of cases that had gotten well—was repeated punctures of the spinal canal. The other methods did not seem to be of any practical value.

(At this point in the program, Dr. Banister took the chair).

Dr. Alexander Young, Omaha.—I want to take a stand with Dr. Christie in his remarks, because I had the intention of making the same remarks as he in regard to the value of spinal fluid examinations in other conditions than syphilis of the nervous system.

I appreciated very much the paper Dr. Wohl gave, and can second very warmly a great proportion of the points he made. I am not quite ready to stand with him on the absolute value of the Lange-colloidal test in distinguishing between paresis and cerebro-spinal syphilis, particularly in the early cases of paresis. We are doing some work in the Douglas County Hospital at this time in taking the Lange-colloidal tests of the spinal fluid; and I hope for our own satisfaction we will be able to make more definite statements later on. The value of the Lange-colloidal tests is amply proved by the case Dr. Wohl quoted, and in other cases wherein the blood and spinal fluid Wassermann was negative and the cell test was practically negative, the Lange-colloidal test showed a definite syphilitic curve, which was supported by the clinical manifestations of the case.

There are five tests we apply to the spinal fluid: the Wassermann, the Lange-colloidal, the cytological, the globulin, and last, but not least, the pressure of the spinal fluid. I think the test of the pressure of the spinal fluid is of distinct value. Take for instance cases of brain swelling where the patient has a number of obscure symptoms, and the condition is undoubtedly due to an edema of the brain with a greatly increased pressure. A high reading of the pressure of the spinal fluid oftentimes gives us a very distinct indication for treatment, though, as in one case that occurred recently, the estimation of a negative pressure of the cerebrospinal fluid was of great value. The normal pressure of these fluids runs from 80 to 160 mm. of water. In cerebral tumors that pressure may rise to 400, and the reading is of very definite value to you. In a case in mind where there was a very great increase of intracranial pressure—the individual complaining of excruciating headache—the spinal reading was practically zero. The explanation was this: The intracranial pressure had forced the pons and cerebellum into the foramen magnum which shut off communication between the subarachnoid space of the spinal canal and that of the cranial cavity. Occipital decompression removed the blocking at the foramen magnum, established a free circulation of the cerebral spinal fluid, relieved the internal hydrocephalus and the accompanying headache, and the last report from the doctor interested was that the patient was getting along very well. The negative pressure was of distinct value in aiding the surgeon and medical man interested in the case in making a correct interpretation of the symptoms. Other men present were advocating anterior decompression, but the posterior relieved the individual.

Dr. Wohl in closing the discussion, said: I wish to thank the gentlemen for their discussion.

Dr. Aikin certainly hit the point when he stated that the laboratory man should interpret his findings in cooperation with the clinician. The laboratory plus the clinical side may prove of the greatest value to both patient and physician; either one, when relied upon alone, will lead to many errors.

The surgeon as you know is a difficult man to please; from many years of association with him I have learned to make friends with him, simply because in interpreting laboratory findings for him I do not lose sight of the clinical side of the case.

In submiting a specimen for examination it is therefore essential to accompany it with a brief clinical description. For the laboratory procedure alone particularly when they are of the broader line nature cannot be looked upon as the determining factor in the diagnosis of the case.

Dr. Christie has criticized me for not conforming to the title of the paper. I am willing to take the blame for it if I have succeeded in impressing upon the members of the society the practical importance of the spinal fluid examination in cases of so-called cured syphilis; for, to me the latter seems to be of far greater magnitude than any other possible information we might gain from spinal fluid examinations.

From our experience the Lange colloidal test is of importance. I agree with Dr. Young, that you cannot allow the test to make a final diagnosis, yet in your border line case with vague psychoneurasthenic symptoms with a definite history of syphilis, mental impairment where you are clinically in doubt as to whether or not it is a case of early paresis the Lange test will give you valuable information regarding your final diagnosis of the condition. I have omitted the consideration of the pressure of spinal fluid not because of its unimportance but because the customary way of estimating the increase in pressure, whether it comes out drop by drop or by stream, is more than useless, for as you know the pressure depends upon position of patient, size of needle and many other factors which are too often overlooked. I'll admit that when you estimate the pressure by a manometer under proper conditions you will get valuable information from it.

War Psycho-Neuroses.*

G. W. Dishong, M. D., Omaha.

Never before in the history of the human race, have men been subjected to such tremendous conditions of stress as were encountered in the recent world war. The world, wholly unprepared, stood aghast before a spectacle presenting the most horrible methods of death and destruction that had ever been devised by man. With unprecedented cunning and treachery, the enemy developed a psychological setting of such magnitude and effect that the resulting stress was both physical and mental. Conditions at the front were such that it required not only perfect physical health, but a well poised nervous organization. Adaptation was so difficult that those of low mental level and those inclined to nervous and mental instability from any cause promptly broke under the strain. Physical fitness was not the essential thing. The horrors and hardships were more in conflict with the emotional life of the individual. Facing the stern realities of war seemed to overwhelm those of unstable nervous reaction and they developed shell shock or insanity as the only means of escape.

Questioning the wounded revealed the fact that fear and intense longing were common to all at the front. In the normal man, fear, while ever present was controlled, and although he might be greatly excited or terror-stricken by the horrible sights and the fear of impending danger he never lost his hold on reality, and if he did succumb, it was either from an actual wound or exhaustion. While in the case of the unstable man, the intense fear and longing had such profound effect that he reacted by developing a neurosis or psychosis as a defense against the stressful environment. It was exceedingly rare to find a wounded man with a neurosis or psychosis. Here the unconscious longings were fulfilled by the wound and shell shock was not necessary to remove him from the painful scenes.

In the early part of the war a large group of nervous disorders were classified under the broad and rather descriptive term shell shock. Soon confusion arose as it was found that some of these cases were suffering from purely functional or psychogenic causes, and that symptoms in others were the result of concussion of the brain and cord. Later when definite etiological factors were determined and better understood, the concussion cases were classified as such and the term war neurosis or shell shock reserved for those cases in which the causative factor was not organic, but purely psychic in origin. In the neuro-psychiatric service of the army the cases showing actual trauma to the brain or cord from shell explosion were classified as

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

"concussion by explosion." These cases were numerous and presented an interesting study. The symptoms might be slight, as would follow an accident in civil life, when a patient has fallen or received a severe blow upon the head. A short period of unconsciousness followed by recovery in a few hours or a few days and the soldier would return to duty. Or if the concussion had been more severe, the symptoms might be more serious, as stupor for several hours, loss of tendon reflexes, nystagmus, dizziness and rupture of the ear drums. Even this degree of concussion allowed a complete recovery and return to duty in a man of stable nervous makeup. In some of these cases of severe concussion, however, there developed later on symptoms of multiple lesions of the cord, like disseminated sclerosis. These cases were definitely organic, and in some few cases it was reported that there were multiple hemorrhagic changes in the brain and cord.

The war neuroses or shell shock cases were those of purely psychic origin and were classified as psycho-neuroses, hysteria, neurastenia, psychasthenia and anxiety neuroses. There is nothing new presented here. In war neurosis we have the same symptom complex as is encountered in neurosis in civil life. A good example is traumatic neurosis or "railroad spine." Here the emotional shock and desire for remuneration is similar to the emotional conflict and longings found in shell shock. In both instances there is an idea of disability induced by suggestion and unconsciously the disability is used as a means to an end. One desires remuneration, the other desires removal from his stressful environment. But a soldier's fitness in the trench was such a vital thing and the war neuroses were responsible for such a large number of incapacitated soldiers, that the subject at once became one of the greatest interest, and the cause and operation of neurosis is better understood than ever before. It was determined first of all that it requires gray matter and a well poised nervous organization to make a good soldier, and the fallacy of allowing men to go to the front who were unstable in their mental or nervous reactions was at once apparent. Here was no place for the feeble-minded, epileptic, or those inclined to nervous and mental instability from any cause. These men were already over-burdened with heredity or other form of predisposition and would naturally break under the strain more readily than those not burdened or the so-called normal, so that the manner in which men broke under strain was a matter of great interest and importance. Many of the cases admitted to the neuro-psychiatric department were suffering from exhaustion, pure and simple. They would give a history of constant exertion day and night, working in the rain, mud and cold; tired, with little food and water and in constant danger. After three or four days of such suffering the following symptoms developed: The teeth begin to chatter, there is tremor of the hands, the knees shake and the legs are weak. There is palpitation of the heart and difficult concentration of thought. Finally the individual loses himself completely and there is collapse. After a warm bath and nourishment such an individual would often sleep for forty-eight hours, and on awakening, his recovery seemed complete, and his first words would be "Doctor, for God's sake get me back to my organization." This is the normal reaction in a well poised healthy individual. Now consider a man who is a bit feeble-minded (and there were many in the army), or the potential epileptic, or neurotic, or one inclined to insanity. We would naturally expect that this type of soldier would break early or even before he got to the fighting front. All of these are already burdened with mental unrest and weakened self-control and when they are brought face to face with the stern realities of modern warfare they find adaptation too difficult. Many of these men were of fine physique, but with slight intellectual defect which on psycometric testing showed a mental age of nine or ten years. That is to say this sort of man would have the same difficulty in adjusting himself to the strain of war as a child of nine or ten years of age. With the epileptic there is not necessarily mental deficit, but he has a peculiar personality make-up in which egoism, emotional defect and hypersensitiveness predominate, so that here again adaptation becomes difficult and results in so much disharmony that the nervous irritation precipitates a convulsion or other epileptic manifestation. Those inclined to neurosis have a similar difficulty in adaptation, and while the ordinary symptoms of shell shock were common to this type of case, it was not rare for cases of hysteria, neurasthenia and psychasthenia to present convulsive seizures.

Among the strictly mental cases, manic

depressive insanity predominated, although occasionally a precox type of reaction was encountered. All of the latter observed in Base Hospital 49, gave a history of their trouble in mild form dating back prior to enlistment.

At the front, stress consisted of fear of death and injury, cold, wet, mud, hunger and loss of sleep. Even with the normal individual adaptation to such conditions were difficult and the strongest hearted quaked with fear and was often lacking in self-control at the first encounter, but his instinct for fight and self-preservation soon superceded his fear and all of his energies impelled him on to attack and victory. After the first encounter, he gloried in the fight and was anxious for the fray. Not so with the neurotic individual or those unstable from any cause. With them constant or succeeding experiences of stress led to greater disharmony until they finally found relief in a nervous breakdown. Many of these were unconscious of fear or the underlying emotional instability. We examined and treated many men who were plainly disappointed and ashamed of their weakness and lack of self-control. One young man, a captain, who had been an attorney in civil life and a man of considerable intelligence, had conducted himself in a worthy manner at Chateau Thierry as long as conditions were favorable, but when he encountered a fierce attack, resulting in the loss of a large number of his men and all of the officers but himself, he stood appalled at his responsibility. He described graphically how he struggled for self-control, but found himself gradually slipping. He realized his over anxiety, but tried to hide it. He first noticed marked tremor in his voice in giving commands, later his teeth began to chatter, and his hands to tremble, then his knees began to shake and he grew weak, so that he could scarcely stand. As the day grew on, he found it difficult to concentrate his thoughts and he was inclined to weep and within a few hours he lost his self-control completely weeping like a child and wholly unable to direct his affairs. In ten days he had recovered and was not anxious to return. Here we had an unstable nervous organization which under ordinary circumstances was adequate, but in the face of overwhelming stress, resulted in faulty adaptation. But in most instances the cases of neurosis observed and treated in Base Hospital 49, were individuals of rather low mental level while those individuals of high intelligence who broke under the strain, developed a psychosis often in the form of manic-depressive insanity.

Under continuous physical and emotional strain a man will finally succumb to sheer fatigue and exhaustion. His symptoms in the main are tremors, tics, weakness, palpitation of the heart, inability to concentrate and in some instances, collapse, with mild delirium. This is normal, and usually all that is required to restore this sort of individual is nourishment and sleep. It was not uncommon for such a case to enter the hospital and after sleeping for forty-eight hours awake to consciousness, when his first words would be "Doctor for God's sake get me back before I lose my organization." In the case of neurosis or shell shock, there is the same emotional and physical strain, superimposed upon the mental unrest which is habitual with the neurotic and consequently the nervous breakdown comes early, or even before the actual stress of fighting is encountered. Many of our cases developed while in reserve or on the way to the front. The resulting neuroses were classified for convenience under four heads, hysteria, neurasthenia, psychasthenia and anxiety neurosis. The symptoms in the main were convulsions, tics, stammering, tremor, aphonia, paraplegia, monoplegia and anxiety states with morbid fears and compulsive tendencies.

A certain mental attitude, or emotional setting was always demonstrable in these cases of neurosis and, consequently, in the treatment of these cases an appeal to the unconscious conflict was necessary in order to obtain the best results. For instance, a young man of slight build who formerly occupied a clerical position in the States found himself near the front handling heavy shells. He was conscious of fear, very tired and discouraged. At the end of a long and hazardous day he crawled into a covered truck among some loaded shells and fell asleep. During the night he was awakened by a shell rolling against his arm. He found there was no sensation in the arm and he had lost the use of it completely. He was sent to the base hospital because of the resulting paralysis. On examination, the arm was found extended and rigid and with stocking glove anesthesia to the elbow. The paralysis was purely hysterical and promptly relieved by a single sceance, to his great surprise and satisfaction. Here is a typical example of conversion hysteria—a conversion of psychic into physical disturbance and determined by the slight contact of the shell at a time of great mental unrest.

In another case, a man of middle age and with a history of previous nervousness received a letter a few hours before entering a drive stating his wife had met with a serious accident at home. The drive consisted of a short and furious attack and many were killed. He felt exhausted and weak and lay on the ground for an hour or two with others of his company. When he attempted to walk he was unable to do so and it was found that he was paralyzed in both legs. He came into the hospital with a diagnosis of paraplegia and probably cord lesion. On examination the legs were extended and rigid and the feet cyanotic. There was hyperasthesia over both legs, extending well up over the thighs, but the tendon reflexes were present and normal and there was plantar flexion. After a brief explanation of the relationship between his disability and his painful mental state, and the application of a strong Faradic current, he regained his locomotion and on the third day after administration he was walking normally.

The most common form of hysterical manifestation was aphonia. These cases were definitely unstable and usually entered the hospital with a history of aphonia following a gas attack. Careful questioning usually revealed the fact that these patients showed no evidence of gas inhalation, but had found themselves in a ward with gas patients who were unable to speak and they, through suggestion, developed hysterical aphonia. These aphonic patients were numerous in the psychiatric service. In our service, the period of aphonia ranged from three weeks to seventeen months and every case was promptly restored by a single application of a strong Faradic current, having first been prepared by a suitable explanation of their trouble and a suggestion that they would be relieved at the time of their examination.

Emotional reactions stimulate motor responses and if, as in the case of neurosis the emotions are unconscious and repressed, the energy liberated finally overflows into the motor system and visceral fields and hysterical symptoms result. This is the fundamental mechanism in hysteria—a conversion of psychic unrest into physical manifestations. The emotions of fear and pain are necessary safe-guards to animal life and constantly activate it to useful adaptation. Man having risen to a plane of conscious adaptation is no longer dependent upon this primitive reflex, but it has come to him as a heritage, which in the face of overwhelming emotions may supercede his conscious control, especially if his self-control be weakened. Many cases of neurosis and psychosis seemed so completely overwhelmed by the frightful scenes in the trenches that they lived them over again in their dreams or fantasy formations. Thus, a young negro, from the south, a perfect specimen of physical development and a giant in strength, was afflicted with a severe anxiety neurosis. While lying quietly in bed, he would suddenly roll to the floor and dart under his bed with the firing of a heavy gun in the distance. This condition was not uncommon and was a source of great embarrassment to patients of this type, but the impulse was instantaneous and uncontrollable. Another patient entered the hospital in catatonic stupor. He was wholly indifferent to his surroundings and lay in bed with his eyes tightly closed, mute and motionless. If vigorously stimulated, he would react in the most dramatic manner a pantomine of warfare, evidently his past experiences. He was suddenly alert and assuming a pose as if aiming a rifle he would pull the imaginary trigger and instantly duck beneath the covers. Repeating this a few times, he would then pose and go through the motion of throwing hand grenades. He would then carefully go through the motions of fixing his bayonet and charging the enemy. And then with his face drawn and tears streaming over his cheeks he seemed thrusting the bayonet into the enemy, while he sobbed aloud. These cases could be multiplied indefinitely, but a few will suffice to show the different types of reaction. But the great majority of men were able to adjust themselves to these experiences without developing symptoms, excepting as would follow from sheer exhaustion.

The cases of concussion by explosion likewise, show the tremendous stress that may be borne without permanent disability. Concussion in the unstable would naturally produce symptoms of neurosis so that the concussion syndrome was super-imposed upon the neurosis. And in severe concussion the density changes in the atmosphere were capable of producing vascular changes in the brain and cord, amounting to actual organic disease. But in the majority of instances, it was surprising how the normal nervous system would stand this sort of insult without symptoms of neurosis or so-called shell shock. Usually there was a history of having been stunned two or more times by heavy concussion and finally the patient would be rendered unconscious for a few hours. Not uncommonly the eardrums were ruptured by the force. These cases of severe concussion usually complained of slight headache, with dizziness and a feeling of weakness. Often there was slight tremor of extended fingers and absence of patellar reflexes. In a few cases, nystagmus was observed. Most of these patients complained of tenderness along the spine and over the abdomen. A few days' rest in bed, sweat packs and salicylates and these patients were ready to return to duty.

In studying the cause and development of war neurosis, we are forced to the conclusion that physical fitness was not the essential thing, and that we must consider emotional as well as physical strain.

The important lesson to be learned is the fact that only those predisposed to nervous and mental disability develop neurosis and psychosis under stress, and that these individuals can be detected and forewarned by a comprehensive neuro-psychiatric examination and psycho-metric testing.

Discussion.

Dr. John B. Potts, Omaha.—The cases I saw were nearly all those from the ear, nose and throat clinic. Our clinic was a clearing house not only for our hospital, but all the other hospitals in Allerey center, and the convalescents camp numbering four to seven thousand men additional.

We used to get a run of these shock neurolytic cases—some with imaginary troubles in the ears, some with headaches, etc. Most of them were really in earnest about the thing that troubled them. They thought they had the disease they came in with. I referred practically all the cases that showed neurolytic lesion to Dr. Dishong.

The most spectacular were those of aphonia from gas cases, and being with gas cases, and some for which I had no cause. One fellow had aphonia that came on immediately after the draft law was passed. He had whispered his way into the army, and was finally sent back to the base hospital. It was necessary that a careful examination of all these cases should be made, because, there were some with a lesion of the larynx following the gas attack. In these for a considerable time you would find an inflammation of the nose and larynx and bronchial tubes; so that these men really were whisperers. If he had a normal larynx and yet insisted on whispering, I would carefully explain to him that he had a normal voice box; that there was no reason why he could not talk, except, due to the strain he had been through he had lost the proper telephone connection between his brain and larynx and he would have to have an electric stimulation of the muscles of the vocal cords in order to make him talk again. All American boys know how you can get a shock. I would say: "I will send you to Captain Dishong and he will give the proper stimulation, and you will be able to talk just as well as anybody." And they always did. I had two or three cases who did not have to see Dr. Dishong. They got so they could talk on the way to his ward.

It was interesting to me, because in civil life we have been in the habit of getting along with these patients, especially the girls, and not applying really rather strenuous measures to them. After this when anybody comes to me with hysterical aphonia, he is going to get a proper electric stimulant, and talk that day.

I thank you. (Applause).

Dr. Mick, Omaha.—I should like to ask Doctor Dishong a question. Are all of these cases functional? I know there are many functional cases; unfortunately, at the time I saw many of these cases at our Evacuation Hospital, we did not have a neurologist with us but we had a number of pathologists. Captains Cattel and Wilder came to the conclusion that some of the so-called neurosis were not functional. In one, autopsy, demonstrated carbon monoxide in the blood. Certain engineers I know agree that carbon monoxide is generated in certain quantities by certain explosions of certain shells. This has nothing to do with the shell shock brought on without being in the presence of exploding shells.

I know that there are certain observers who believe certain cases with neurosis were suffering with intoxication due to carbon monoxide poison.

I know one major, and any number of intelligent officers who recovered. I do not mean by this that carbon monoxide was used in the manufacture of shells, but rather a chemical product, at the time of the explosion. I quite well recall an engineer who ran toward shell fire, from shell hole to shell hole. This was one of those functional cases. This man was thoroughly normal when placed on the state, and was singing.

What would be interesting to know is, were the cases that are supposed to have died from shell shock not carbon monoxide poisoning? Second, did not many of these so-called neuroses follow minute amounts of carbon monoxide inhalation.

Dr. Dishong—In an examination in Dr. Potts' department we always gave a man the benefit of the doubt before we said his case was hysterical. I recall two cases where we thought the trouble was due to hysteria, but careful investigation showed it was not. After gas inhalation a man can have his vocal cords so weakened that he speaks only in a whisper and yet not have hysteria. I talked with one man, a hospital inspector who had seen many of these cases and he said it was his observation that many of these cases following gas inhalation did not speak for a long period of time and that in his opinion this condition was not necessarily hysterical. The cases Dr. Potts and I quoted were definitely hysterical.

Dr. Mick.—Did the cases that actually die, die of shell shock or carbon monoxide poisoning? Were they all functional—not the aphonic cases—but were some of these cases of shell shock functional or carbon monoxide poisoning?

Dr. Dishong—There is no such thing as shell-shock. That term has been discarded. It is a descriptive term. It is too broad and includes both functional and organic cases. There are two additional groups of cases which are important—cases developing symptoms from concussion by explosion and those developing from exhaustion. These again are not hysterical and occur in well poised or normal individuals. I do not believe a man would die from neurosis. Of course, carbon monoxide might kill a man and his neurosis might render him predisposed.

Difficulties Encountered in Breast Feeding and Treatment.*

W. O. Colburn, M. D., Lincoln.

Every mother should nurse her own baby. By refusing to give her baby the benefit of breast milk, a mother takes a risk for it which she has no right to assume. The statistical results of breast feeding are vastly superior to those of artificial feeding. In Berlin, in the years from 1900 to 1904 only 9% of the infant mortality occurred in breast fed infants. In Boston, statistics show that an artificially fed infant is six times as likely to die, than is a breast fed infant. In spite of these facts we frequently encounter mothers who prefer not to nurse their infants. Human milk is fresh, clean, and always at hand. It is the least expensive food which can be given. It prevents certain diseases and cures these diseases when they occur in babies who have not had breast milk. It increases the resistance of a well baby to disease, and it helps a sick baby to recover from all kinds of illness. It is the duty of every physician to impress the superiority of maternal feeding upon every mother, and to steadfastly refuse to countenance any other method of feeding unless absolutely necessary.

Positive Contra-Indications for Breast Feeding.

1. Tuberculosis in any form.
2. Epilepsy or Insanity in the mother.
3. When mother is very delicate and feeble, or any serious chronic disease.
4. When the mother's pregnancy and labor have been attended by any serious complication such as sepsis, hemorrhage, nephritis or eclampsia.
5. Syphilis if contracted by the mother after the birth of the baby.

Conditions Affecting Lactation.

1. Diet. The underfed mother will lessen the fat in the milk and vise-versa with increased food, will increase fats. Certain fruits and vegetables eaten by the mother occasionally produce sudden disturbance of digestion in nursing babies, but this is usually an idiosyncrasy, and cannot be governed by any rules.

2. Drugs. Certain drugs, such as K. I. Sodium Salicylate, Antipyrin, Hg., Aspirin, Calomel, Arsenic, Bromides and Urotropin may have an unfavorable effect.

3. Vegetable poisons and toxins formed in the mother may be excreted in the milk. Anti-bodies may be carried over in the milk to the baby. Immunity can be transmitted to the infant through the breast milk.

4. Menstruation usually causes very little change, but we have cases reported of marked change. Menstruation is not a sign that the baby should be weaned, but pregnancy is a contraindication to nursing.

5. Sometimes babies are unable to nurse in the natural manner by sucking. Such inability of the infant to nurse may be caused by a condition on the part of the mother in which the nipples are very small or depressed. Nipple shields may be of value. Deformities of the sucking mechanism, great feebleness, or premature birth, may be factors, and it may be necessary to use the breast pump, and feed the baby with a spoon, dropper, or patent feeder.

6. Nervous Impressions. The past year has been a year of unusual sorrow to mankind. The mothers with infants at the breast have in many cases had one or more sons or brothers in the service, perhaps in the thick of the fray, and other mothers have had a terrible dread of the awful epidemic we have recently passed through, and these catastrophies have not been conducive to good breast milk. These psychic disturbances no doubt are the greatest factors concerned in successful breast feeding. Excessive nervous disturbances, excitement or violent emotions, may produce a marked alteration in the composition of milk. The evidence of this phenomenon is mainly rather clinical than chemical, but there is some evidence that such nervous disturbance causes an actual chemical change, the protein becoming increased, through which the baby becomes ill.

To illustrate:

Case No. 2051. Oct. 23, 1918. Baby 8 weeks old. B. W. 4¾ lbs. P. W. 6 lbs., 14 oz. Breast fed since birth, except for two or three diversions to proprietary foods for two or three days at a time.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Feeding schedule every three hours, and a bowel movement with every nursing. Colic and constant crying. Stools always green, and containing mucus and usually blood. Three-hour schedule was tried with water before each nursing, with no better baby. An analysis of the milk was made at the State Laboratory, the contents of each breast being tested separately and cultured for bacteria. The composition of the milk was within normal limits and negative bacteriologically. The babe was fed on Eiweiss milk entirely for three days, the stool becoming formed and free from mucus and blood within twenty-four hours. After three days of Eiweiss feedings, the breast was instituted for five minute nursings and in less than 24 hours we had blood and mucus in the stools. The breast was discontinued, and the mother directed to pump the breasts every three hours, and the baby was continued on Eiweiss for another week. The breast was again tried, starting with one minute nursings and using Eiweiss complimentary. By a very gradual increase we were able to establish a tolerance for the mother's milk up to eight minute nursings. We were making very small gains in weight, and the outlook seemed brighter, when the baby passed from my care. The baby shortly after, developed some acute illness and died. The mother's milk in this instance seemed to be a poison to the baby, either some toxin was excreted through the milk, or some chemical change through nervous disturbance, or perhaps, possibly some faulty condition of the baby's digestive system may have made it impossible for the baby to tolerate this human milk which might have been a perfect food for most any other baby. This has been the only case that I have had in my practice of pediatrics where I felt that I might have to sacrifice the human milk.

I have always maintained that all breast milk was good milk, it might be too rich, or might be poor in quality, but these conditions are easily corrected and this natural food should never be sacrificed until these differences are adjusted and thoroughly tried out. Too often the physician finds the infant on breast milk not doing well, perhaps not gaining in weight, having frequent stools, or some colic, and instead of trying to determine the real cause of the trouble, he sacrifices the breast, and puts the baby on condensed milk or some other artificial formula. Often the baby has been having daily doses of castor oil, milk of Mag. or one of the various cathartics so frequently administered to a baby, given by the mother or nurse, and commonly prescribed by the physician. Pediatricians are almost unanimous against the indiscriminate use of cathartics, and I for one am emphatically against their use in the first year of life. The following history is illustrative of an upset of a nursing infant in the first week of life, produced by a dose of castor oil, administered by a nurse.

Case No. 2085. Nov. 20, 1918. Baby 11 days old. On third day a dram of castor oil was administered by the nurse, and trouble seems to have dated from this time. Bowel movements became frequent, sometimes eight or ten movements of a very small amount in an hour. Much colic, cramps as the mother called it. Feeding schedule every two hours. Marked erythema about the anus and on the buttocks. No vomiting. Stools orange color and full of fat curds. The baby was placed on a four hour schedule and one-half ounce of 1% Sod. Bicarb. Solution was given just before each nursing. No change was apparent in the first 24 hours. Flour ball was resorted to, one-half ounce to a pint of water cooked for one hour. It was fed two ounces every three hours for 24 hours. The baby doing much better, the breast was reinstituted beginning at first with two minute feedings and gradually increased to 15 minutes. No further trouble.

In the Sarah Morris Hospital for children, Chicago, whose chief pediatrician is Dr. Abt, cathartics of any kind are not permitted to even have shelf space within its walls. I have been told by the chief of that institution that castor oil, calomel, and various other cathartics had been administered to well infants and blood had been found in the stools following their administration. In ten years of general practice I treated my diarrhoea cases with frequent and sometimes daily doses of castor oil and a great many got well in spite of the treatment, but in three years of special work, I have used no castor oil in my diarrhoea cases, and they have been of shorter duration, and practically all recover.

Another great factor in disturbed breast feeding is the irregularity of nursing. The majority of our disturbances are corrected by insisting on absolute regularity of feeding. Feeding at the same hours every day, and allowing the baby to nurse just fifteen minutes at the breast. I have adopted the three hour schedule, seven feedings up to the fourth month and the four hour schedule, five feedings thereafter, except in instances where it seems advisable to lengthen or shorten the interval of feedings.

If the stools show a great many fat curds, and the baby has considerable colic—one ounce of water or alkaline Sol. just previous to the nursing, and shortening of the nursing period often relieves the condition. It should be borne in mind that whenever the nursing period is shortened, the breast should be emptied with the breast pump after the nursing. If the baby cried immediately after nursing, as if not satisfied, and begins crying for some time before the next feeding and does not show a normal gain in weight we are almost justified in saying that the baby is being underfed, and if convenient it would be best to prove this by weighing the baby before and after each nursing for twenty-four hours, and see just how much milk the baby is getting. To make up the deficiency the baby may be permitted to nurse both breasts at each nursing period, and if this proves inadequate, complementary feedings of modified cows milk should be instituted, feeding same after the breast.

The mother's milk can frequently be increased in amount by increasing the fluid intake of the mother. I frequently order the mother to drink one glass half and half, milk and gruel, ½ hour before the nursing period. Likewise the quantity of milk may be reduced by lessening the fluid intake and keeping the bowels open.

A few months ago I read an article by Dr. J. L. Sedgwick, of Minneapolis, on the establishment, maintenance, and reinstitution of breast feeding and since that time I have had four cases where agalactia had existed from two to eight weeks. In every instance we were able to reestablish the breast feedings, and in one instance of six weeks of agalactia the breast supplied more than enough milk for the infant. More than once this has proved a life saving measure to the infant that was barely existing on artificial formulae.

Conclusions.

1. The purpose of this paper is to make a strong appeal to the profession to hesitate before sacrificing the mother's milk.

2. Remember that when you have turned down human milk, you have increased the chances of the infant to die just six fold.

3. Regularity of feeding is a great factor in preventing disturbances in maternal feeding.

4. Avoid cathartics, and more especially the drastic one, castor oil. If you must taper off slowly, then give milk of magnesia.

5. The mammary gland may again be made to excrete milk after an agalactia of eight weeks and perhaps longer.

Discussion.

Dr. Floyd Clarke, Omaha.—The importance of breast feeding babies it seems to me can hardly be overestimated. We see a great many babies day after day, and if the baby is breast fed it seems to get along splendidly. As soon as we find a baby who is being fed in some other way, we immediately encounter a condition which we have to fight constantly. The food has to be changed or added to or subtracted from, various conditions coming in which do not appear among the breast fed babies.

The success of the man who does a great deal of children's work will depend upon his attention to detail. If he is a man who will attend to the details of feeding and take care of these babies, his success is assured. Unless he can give attention to these little details, he is not going to be successful. We are called "Little Doctors" sometimes. We attend to details. In that way we are possibly little doctors.

A great many difficulties are encountered in breast feeding. Sometimes a particular difficulty I have encountered is in the college woman who is unable to nurse her baby because of a painful nipple. That is a mighty hard proposition to run up against. She has such intense pain and becomes so nervous at the time of nursing her baby it is almost impossible for her to do it. I have seen them develop almost a semi-hysterical attack.

I think the majority of women do want to nurse their babies if the physician in attendance will impress the fact of the reason for doing so. I do not believe they want to stop nursing their babies—even the society women who have been so much talked about.

There are no germs in breast milk. Even the spirochetes of syphilis do not pass from the breast milk to the baby, unless the germs come on the outside of the nipple.

The examination of breast milk shows it is almost always uniform. Seldom does it become necessary to change or add to the breast milk as the result of examination. Practically it depends upon the fat content, and that does not very often vary. If it does by giving the mother more cream and milk; regulating her diet and attending to the amount of time she spends out of doors and her freedom from home cares, the fat content is usually increased.

There is a certain nervous influence that comes at the time the mother is menstruating. If she is nursing a child and menstruating the baby becomes quite nervous and does not seem to care to nurse as much as it did prior to the mother's menstrual difficulties. Outside of that, there doesn't seem to be very much reason for any trouble insofar as menstruation is concerned, although as a general thing the baby doesn't gain during the menstrual period.

My experience with the four hour schedule does not seem to be very fortunate. I have had some difficulties. The principal one is that occasionally a mother's breast milk will dry up, so I always caution the mother's when I put them on the four-hour schedule to report to me within a certain length of time so that they may be changed over to the three-hour schedule, if necessary. Especially is this true with the first baby, when the mother is just beginning to nurse it, although I frequently use the four-hour schedule and believe in it.

Dr. Arthur L. Smith, Lincoln.—I heartily commend the speaker upon the position he has taken, for I believe we cannot be too greatly impressed with the importance of breast feeding. Many are too prone to take the baby off the breast upon the least provocation. Never in my opinion should a baby be weaned while there is any milk secreted by the breast. If the milk supply is not sufficient for the needs of the baby, then supplementary feedings of cow's milk mixtures can be given after each breast feeding. In six years I have taken only two infants under three months of age off the breast. I have carried many through major operations and infections of all kinds, also have reinstated breast feedings several days after artificial food has been substituted.

One thing I wish to condemn and that is the feeding of patent foods, high in carbohydrates. These are advertised in all medical journals to attract the physician and in the newspapers to inveigle the layman into using them. Babies fed upon this class of food form the large per cent of the feeding cases brought to the pediatrist.

Laxatives are seldom indicated in infants. The constipation habit is usually formed from the use of this class of drugs.

Vomiting and diarrhoea in babies usually mean the baby is being overfed. By cutting down the time of nursing it is usually overcome. Every breast fed baby has, normally, fat curds in the stools.

Dr. Clarke said there are no germs in mother's milk. Many a time in infections of the breast, I have demonstrated streptococci in the milk. Normally, there are no germs in the milk.

The change from three to four hour nursing must be gradual, or there may be food disturbance. Every change made in feeding must be an evolution instead of a revolution.

If the mother is well fed, diet does not change the percent of the constituents of the milk. I have tried this time and again with no result. Fat seldom causes a disturbance in the feeding. It is usually the sugar content resulting in the baby having a foamy acid stool and vomiting sour fluid. Giving the baby a little water, reducing the time of feeding, and giving sodium bicarbonate will usually overcome this condition.

Dr. M. L. Hildreth, Lyons.—I want to disagree with the last speaker on one or two points. He says doctors in general are too prone to relegate the baby's feeding to the bottle. I do not know when I have heard a doctor recommend it except in the case of dire necessity. I believe we are all guiltless of that offense. We know certain women do favor weaning their babies, but I will maintain that mothers now are more apt to want to nurse their babies than otherwise.

This is an immense subject to discuss, but there are some practical points.

As to changing the breast contents by feeding the mother different foods, I do not believe much in it. Liberal feeding and plenty of fluids is the best rule. I do not think you can feed the mother fats that will increase the fats in breast milk. Feed the baby cream after the nursing if it needs more fat. It is said that breast milk furnishes the elements that will increase the digestibility of artificial foods. A small amount of breast milk will help to digest other milk, and we can supplement in that way.

As to menstruation and fever conditions in the mother, I have never been in the habit of taking the baby off the breast unless it was imperatively necessary. Through fevers for a short time I do not believe it affects the baby much. I always insist on the mother's nursing the baby during menstruation with the rarest exceptions.

Concerning the hours of feeding, the best rule is to be governed by the individual case. Some babies are like pigs—they eat oftener than others. It is an individuality peculiar to the person. I think we should be governed by general rules and good common sense. I have seen nurses who were a nuisance in taking care of babies. It is a question that is very important, but we must come back to the general fact there are differences in individuals—in babies just as much as in grown people. My rule is generally about seven feedings in twenty-four hours—a little oftener in the daytime than at night. Regularity is necessary and proper.

Speaking of the giving of cathartics, we do not have to resort to them much now in Nebraska. I do not know when I have seen a baby with intestinal trouble that amounted to much. Better care of babies is the rule.

A baby should have cold water several times a day. I do not believe in hot water for them any more than for grown people.

I believe we should cut out a lot of these ironclad rules. The specialists are apt to impose ironclad rules, but we get results without those rules. (Applause).

Colonel Banister.—I do not pose as a pediatrist but there is an interesting point in connection with a deficiency disease, beri-beri, acquired by nursing infants from mothers affected with beri-beri. This is not an infection. The breast milk of the mother infected with beri-beri is deficient in the necessary vitamins, and as a consequence the baby develops beri-beri, which is a multiple peripheral neuritis. This disease manifests a decided affinity for the pneumogastric nerve, and in these beri-beri nursing infants the recurrent laryngeal branches seem chiefly affected with a consequent loss of voice. The "Army Board for the Study of Tropical Diseases" experimented upon several hundred of these beri-beri infants with a perfect cure in every case. It was proved by this board that beri-beri in the native population was caused by a deficiency in vitamins in the rice diet upon which the natives mainly subsisted, in consequence of the "polishing" of the rice grains. By reason of this overmilling process the portion of the pencarp containing the anti-beri-beri principle was removed. The Army Board referred to succeeded in making a stable extract from the rice polishings each c. c. containing 1 gramme of the polishings. They administered this extract to several hundred beri-beri infants with a successful result in every case after a few months treatment. This fact of this transmission of beri-beri a deficiency disease from the mother to the nursing infant through the milk shows conclusively that breast milk is not always best for the child as has been stated. What is true in beri-beri may possibly be true in other of the so-called deficiency diseases.

Dr. Colburn: Speaking of the examination of breast milk, we have in the past six months examined probably twelve specimens of breast milk chemically. It has been very disappointing to us as an aid in diagnosis and treatment, for the reports come back as normal breast milk. The breast milk usually tests out all right. We have never found any marked change in the chemical analysis.

In changing from the three to the four-hour schedule I believe in the gradual change, and usually make it by the amount of feeding. When feeding on the three-hour schedule, you can get up to 5½ oz., then the change to the four-hour schedule causes very little difficulty. The baby will take seven ounces in the first 24 hours, and at the end of the 48 hours it will take the full 8 ounces. Five and a half ounces is about the limit most will handle on the three-hour schedule. I usually figure on this schedule up to about four months. Some babies will do better on the four-hour schedule and others not so well.

Dr. Smith spoke of the curds in the milk, it is true that you nearly always find them. They are not positive evidence that you are feeding too much fat. If you have other disturbances, eliminate the most unlikely causes and treat accordingly.

I do believe breast milk can be increased and I think there is good authority to support me in that. The quantity of breast milk can be increased by simply increasing the water intake. Heavier foods also will increase it but is much more likely to upset the mother's digestive system. I try to impress upon the mother that she should take at least one quart of water more a day while she is nursing her baby.

I also agree that the baby should have plenty of water and some of it should be cold.

Eruptions on the body are due to disturbing factors in the food. There has been a great tendency to think fats are the usual disturbing element, my experience teaches me that protein and especially sugar is a frequent cause. You must trace the cause by eliminating one or the other. Sometimes it is due to acid stools. Sodium bicarbonate here is sufficient to correct this disturbing factor.

The University of Nebraska College of Medicine and Hospital.

Irving S. Cutter, M. D., Dean.

Probably the most important phase of the educational activities of the larger State Universities is the training of competent medical men. This activity bears a vital relation to all the people. Rapid progress has been made in Nebraska in the last ten years. The beginnings of the University Medical School date back more than thirty years to the time when the College of Medicine was organized at the University in Lincoln, under the direct supervision of a most able Dean, Doctor A. R. Mitchell, now a resident of Lincoln. At that time the Medical College comprised three departments: Regular, Homeopathic, and Eclectic. The early struggles of the University of Nebraska coupled with the vicissitudes of the several schools of practice, brought about the abolishment of the College of Medicine. In 1903 the University reorganized a two-year school and continued on that basis with an affiliation with the Omaha Medical College until 1913, when the University of Nebraska formally took over the four years of medical instruction and removed the College to Omaha. The function of the State Medical School is twofold: first and foremost, that of training competent medical practitioners; second, the discovery and promulgation of new facts contributory to the science of medicine. These functions the University Medical School of Omaha is endeavoring to fulfill. The progress of the school during the past six years has been more rapid than many of those most actively interested can realize, and its influence over the State in the dissemination of ideals of accurate medical practice is well recognized.

New Buildings.

With the construction of the South Laboratory Building and the Central Power Plant, the total cost of buildings on the University of Nebraska Medical Campus will exceed a half million dollars. The South Laboratory Building will be completed and occupied at the beginning of the fall session, 1919, which opens September 19th. This building is in every way an ideal structure. In general architecture it is an exact duplicate of the North Laboratory Building, which was occupied in 1913. The new building will house the Departments of Biological Chemistry, Physiology, Pharmacology, University Free Dispensary, and the Department of Experimental Surgery. Each of the departments named will occupy an entire floor, and each laboratory embodies the latest and most modern improvements conducive to effective teaching. Commodious quarters for animals are provided, and the several floors are reached by an automatic electric elevator. There is also provided a general amphitheatre and lecture room, which will accommodate two hundred and fifty. Correlation of the departments in the new building will be rendered much more effective by contiguity; all departments in this building naturally grouping around the central subject of Physiology.

The Teaching Staff of the College of Medicine.

The instruction of the first two years in the College of Medicine is in the hands of full time teachers as follows: Anatomy, Charles W. M. Poynter, B. Sc., M. D., William A. Willard, Ph. D., and assistants; Physiology, August E. Guenther, Ph. D., and assistants; Biological Chemistry, Irving S. Cutter, B. Sc., M. D., Amos W. Peters, A. M., Ph. D., A. S. Rubnitz, B. Sc., M. D., and assistants; Pharmacology, Maurice I. Smith, B. Sc., M. D., and assistants; Pathology and

Bacteriology, Harold E. Eggers, B. Sc., M. D., A. A. Johnson, Ph. B., M. D., John T. Myers, A. B., M. S., and assistants.

The several departments of the first two years of medicine are provided with equipment not only for routine teaching but for specialized research work. In most departments the active teaching is confined to a portion of the year. This enables the department to carry on investigations on research problems, having a definite bearing upon the general subject of medicine. Research investigations are in progress in practically every department of the Medical School. In the clinical years the professors and instructors are men who not only are leaders in their several specialties, but who have shown a special aptitude for teaching. The University Medical School is exceedingly fortunate in its careful selection of clinical teachers.

Operation During War Period.

During the war, the University operated the junior and senior classes on the continuous session plan. This seemed advisable from the standpoint of the needs of the Service and followed directly the general recommendations issued by the Council on Medical Education of the A. M. A., the Association of American Medical Colleges, and the State Federation of Licensing Boards. Practically all of the instructors absent in the Service have returned. This list includes Lieutenant-Colonel A. C. Stokes, Major E. L. Bridges, Captain LeRoy Crummer, Major J. P. Lord, Major A. A. Johnson, Major J. Clyde Moore, Major James M. Patton, Captain John B. Potts, Captain John R. Nilsson, Major C. A. Hull, Major Harold E. Eggers, Captain L. T. Hall, Major W. N. Anderson, Major Amos Thomas, Major Robert E. Schrock, Major A. B. Lindquest, Lieutenant E. G. Davis, and others.

The University Hospital.

The University Hospital which was opened in 1917, provides one hundred thirty teaching beds. Since the opening of the hospital approximately three thousand cases have been admitted for treatment. Cases are received from the several counties of the state, and the hospital days are apportioned to the counties in accordance with their population. The hospital building is largely of ward construction, each ward accommodating sixteen beds with three adjacent isolation beds. The hospital and other buildings of the medical group are wholly fire proof.

In the teaching of medicine and surgery, the University Hospital has proven of inestimable value. Cases as received are promptly assigned to members of the attending staff, and are first carefully worked up from the standpoint of diagnosis. Treatment is instituted with the object, if possible, of

University Hospital.

restoring the individual to earning capacity. Cases received cover almost every phase of medicine and surgery. There is a large children's department, and the daily average number of cases in this department is between twenty and twenty-five. Ample provision is made for Obstetrics, Organic Neurological cases, all phases of Surgery, and Internal Medicine. Cases may be sent to the hospital by any legally qualified physician practicing in Nebraska under the following hospital rules:

Corner in Medical Library.

Regents' Rules.

The Hospital of the University of Nebraska at Omaha is not founded with the idea of receiving patients who are able to pay for medical and surgical care.

Worthy sick except as hereinafter specified shall be admitted upon receipt by the hospital authorities of a written application, stating that the patient needs medical or surgical attention, and that he is unable to pay for professional services at the hospital. The application shall also state whether or not the patient is able to pay for board and nursing while in the hospital. The application must be signed by a physician legally qualified to practice in Nebraska and by either the County Attorney, County Judge, or one member of the Board of County Supervisors. In emergency cases the signature of a legally qualified physician only is required.

No member of the hospital staff shall under any circumstances receive compensation for professional services from any hospital patient.

The admission of patients to the hospital will necessarily be limited to the number of unoccupied beds. If admission is desired by a patient from a district which already has its full quota at the hospital, admission may be granted by the hospital authorities only when in their judgment exceptional conditions so warrant.

The following diseases will not be treated at the hospital: Insanity, Epilepsy, Acute Contagious Diseases, Pulmonary Tuberculosis, and Leprosy.

The hospital authorities are empowered to refuse admission to such chronic cases as cannot in their estimation be benefited by hospital treatment. This power also applies to cases requiring institutional treatment and to such diseases as the hospital authorities may see fit, in the best interests of the public, to exclude.

Persons desiring to secure admission of patients to the hospital, should communicate by letter or telephone with the hospital superintendent and secure approval of the application for admission before sending patient to the hospital.

Patients must be accompanied by sufficient funds to enable them to reach the hospital and to provide for their return home.

Patients should come supplied with at least two nightgowns, one pair slippers, one bathrobe and an ample supply of handkerchiefs.

Nursery—Pediatric Department.

Patients shall be dismissed whenever in the judgment of the attending hospital physician it is not essential to their welfare that they remain in the hospital.

The attending staff is composed of the professors, assistant professors, and instructors in the College of Medicine. Special effort is made to add a human element to the treatment of all cases.

Equipment of the University Hospital.

The University Hospital is equipped with every substantial appliance necessary for the medical and surgical care of the cases admitted. A special laboratory is provided for each floor where routine pathological examinations are made. Electrocardigraph outlets permit the taking of heart records of any case in the hospital without moving the patient. The operating room floor provides three commodious operating rooms, a special treatment room, an X-ray department, clinical amphitheatre, sterilizing rooms, store rooms, etc. All doors in the hospital are bed wide, permitting the ready removal of cases from one point to another. Medicine and supply cases are built into the walls, giving an added touch of convenience. The system of signal lights for patients' and internes' calls render attention promptly available.

Nurses' Training School.

Beginning in October, 1917, there was organized the school for nurses as an integral part of the University. This school is under direct supervision of Miss Charlotte Burgess as superintendent. The school numbers forty-five. The minimum requirement for admission is graduation from a four year high school. Since the school has been open, many students have been admitted with two or more years of college work. The demand for well trained women in administrative hospital activities is very great. Time and subject credit is allowed to candidates who have had the requisite amount of college work. Under certain conditions and by following a definite collegiate course, the degree of Bachelor of Science in nursing is given for three years in the Arts College of the University and two years in the Nurses' Training School. Instruction in the Nurses Training School is given by highly trained, expert nurses, and by the professors and instructors of the College of Medicine.

Women's Surgical Ward.

Senior Neurological Clinic.

Teaching Staff.

Charlotte Burgess, Superintendent of Nurses.

Myra Tucker, General Instructor of Nurses.

Nannie Montgomery, Instructor in Surgical Technique.

Mabelle Shields, Supervisor of Surgical Nursing.

Nettie Fitch, Supervisor of Obstetrical and Pediatric Nursing.

Hazel Laub, Supervisor of Medical Nursing.

Grace Randall, Night Supervisor.

Adeline Wood, Instructor in Dietitics.

The several laboratories of the College of Medicine are used for the training of nurses in Anatomy, Physiology, Bacteriology and Pathology, Materia Medica, Pharmacy, Chemistry, etc.

The University Free Dispensary.

This institution has been located for the past six years at 1716 Dodge Street, but will be removed in September to the ground floor of the South Laboratory Building. The Dispensary receives over twelve thousand visits per year, and under instruction, the students are trained first hand in the routine work of the out-patient department. The Dispensary is under the general supervision of Doctor

A. A. Johnson, Assistant Professor of Clinical Pathology, and is in charge of a trained nurse with assistants.

The Library.

The library of the College of Medicine is housed in the administration wing of the University Hospital. The library contains over twelve thousand bound volumes and receives regularly over one hundred thirty standard medical periodicals. The library is particularly fortunate in having complete sets of the standard American, English, French, and German medical and surgical journals. The growth of the Medical Library dates from the advent of Doctor John S. Billings, who was Professor of Pathology in the University thirty-five years ago. Doctor Billings started many of the foreign sets which have been continued without interruption. The foundation laid by Doctor Billings has been added to from year to year until the library as a whole represents a most valuable working collection. The library is in charge of a full time librarian.

South Laboratory Building. University Hospital. North Laboratory Building.

The Student Body.

Since 1909 the University Medical School has required two pre-medical college years for admission to the freshman class. In 1913 the North Laboratory Building was occupied on the removal of the Medical College of the University from Lincoln to Omaha. Since that time there has been a steady growth in the student body. The attendance for the past year was one hundred eighty-six. Students who pursue the pre-medical, medical course receive the Bachelor's Degree at the end of the sophomore medical year, and the M. D. Degree two years later. Practically every student graduating for the past five years has received an acceptable interne appointment. Interneships are available in special hospitals in New York City, Philadelphia, Buffalo, Pittsburg, Providence, Boston, Detroit, Cincinnati, Minneapolis, Denver, Los Angeles, and in addition approximately fifteen interneships are available in affiliated hospitals of Omaha. The graduating class of 1919 numbered thirty-one.

Max Block, Omaha, Neb.
Roland G. Breuer, Lincoln, Neb.
Frederick D. Coleman, Ulysses, Neb.
Albert L. Cooper, Fairbury, Neb.
George M. Cultra, Lincoln, Neb.
Victor R. Dacken, Harlan, Iowa.
William F. Deal, St. Francis, Kan.
John S. Deering, Sutton, Neb.
Rudolph O. Griess, Sutton, Neb.
Lloyd O. Hoffman, Orleans, Neb.
John W. Hough, Republic, Kan.
Philip Kline, Omaha, Neb.
Emil J. Krahulik, Clarkson, Neb.
Harry E. McGee, College View, Neb.
Glenn H. Miller, Harlan, Iowa.
Ernest H. Morris, Omaha, Neb.
Arthur L. Nielson, College View, Neb.
Martin J. Nolan, Alliance, Neb.
Laurance C. Northrup, Platte City, Mo.
Samuel A. Osheroff, Omaha, Neb.
Abram Puris, Omaha, Neb.
Clarence E. Rodgers, Osmond, Neb.
Carl F. Rusche, Columbus, Neb.
Robert L. Sands, University Place, Neb.
Elvin L. Sederlin, Elk Mountain, Wyo.
Mary J. Sheldon, Scottsbluffs, Neb.
Harry M. Shipley, Rippey, Iowa.
Howard L. Updegraff, Omaha, Neb.
Ernest S. Wegner, Omaha, Neb.
Joseph A. Weinberg, Council Bluffs, Ia.
Earl V. Wiedman, McCool Junction, Neb.

A Good Bargain.

The old Acme brewery of Macon, Georgia, has been converted into a million dollar packing plant. On November 2 that city observed the opening of the plant as a gala day known as "Packing House Day." That is the fourth packing house to be established in the state and Georgia farmers are delighted with the change from brewery to packing house.

THE NEBRASKA STATE MEDICAL JOURNAL

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Our Educational Trend.

Among the many state papers presented in the general session, House of Delegates, and sectional meetings, during the Victory Meeting of the American Medical Association, the speakers generally correllated their arguments toward better clinical instruction to medical students and nurses. Hubert Work, speaker of the House, said: "The primary function of a physician, to cure the sick, is submerged by the scientific ambition to diagnose rare diseases or a few ailments, with an inevitable loss of perspective necessary to the accomplished diagnostician. Failure to gain practical knowledge of the simple things in medicine tremendously depreciates recent graduates. American medical colleges are graduating medical scientists, and our hospitals nursing specialists, both technicians and both out of reach of the family of average means."

Thoughtful men in the service, at home and overseas, recognize that a closer relation between the physician and patient is an imperative obligation on the medical profession for solving health problems. Broader views on the part of physicians and nurses comprehending the individuality of the patient, is an integral factor in preventing and curing disease. The sick person is more than an organism needing laboratory tests and surgical repairs.

A phenomenal growth of hospitals, general and special, small and large, and their standardization under a system initiated by the American College of Surgeons is the answer to that problem. Nebraska has more than seventy hospitals exclusive of state owned and controlled institutions. Everyone of these hospitals is a center of education under control of the medical profession in so far as concerns the care of the sick, and instruction in laws of health for the benefit of the people in their respective localities. In hospitals as is true in educational institutions of any description, a certain percentage are conducted wholly for selfish purposes. When hospitals of that class poorly equipped as they usually are, open for business, their motive is soon obvious to the better element of the community, and their existence of short duration.

The institution, retreat, or private home for unfortunate women may have the legal right, with the moral and financial backing of well meaning people, but their presence makes wrong acts less hazardous, by offering secret ways of avoiding chastisement for self confessed guilt. Thanks to the medical profession, the moral sense of the public conscience is awakening. Our county medical societies enroll only the best educated and ethically just physicians as members. When called as physicians at the bed side, or for consultation on sanitation and good health problems, their services are enlightening and ennobling to the people. These high ideals unified through county, district, state and national federation are represented by more than 82,000 members speaking with dynamic force in the betterment of the dependent and uneducated populace, from any secretly owned and exercised form of medical practice.

Centers of Education.

Many of our readers do not know that Nebraska maintains at least seventy hospitals and sanitariums exclusive of our State Hospitals. Not quite in the ratio of one hospital to each county, but more than one to every county medical society organization.

This information was supplied by Dr. J. S. Welch, of Lincoln, a member of the Hospital Survey Committee, for the Nebraska State Medical Association. The Journal asks these several hospitals to summarize their equipment, including the number of beds they maintain, and report to the Committee. The standard of requirement announced by the American College of Surgeons, and the Council on Medical Education of the A. M. A., should guide each of these hospitals in their staff organization, equipment, and business management. The third survey of hospitals by the A. M. A. Council on Medical Education completed in October, 1918, credits Nebraska with 100 hospitals totaling 8,394 beds, but only 18 hospitals having or seeking interns. Only nine hospitals—all of them general hospitals—responded to the A. M. A. committee inquiries. In laboratory work all had equipment for blood examination, urinalysis, and gastric examinations; six for tissue examinations; nine for bacteriologic examinations; six for nitrogen determinations; three for electro cardiac examinations; five for serologic examinations. In X-ray work all had a laboratory with an expert radiologist, and were equipped to make skiagraphs; eight were equipped for fluoroscopic examinations and X-ray treatments.

In records all kept a daily record of cases, and descriptions of operations; eight noted the condition of patient at time of discharge; four had necropsy findings; six noted final results; four had histories signed by the staff physician. Of the nine hospitals, six employed a laboratory expert; seven had expert anesthetists and dieteticians; two a medical library, and seven had available medical journals. They are centers for instruction in the care of the sick and prevention of disease, no less effective in that service, than private or denominational institutions in other lines of educational work.

It will be seen from these statistics, that only a minimum number of our hospitals are qualified under the standard considered practical by the American College of Surgeons, and the Council on Medical Education of the American Medical Association.

When the requirements offered by modern medical knowledge warrants, the Journal is their official publication, insuring the endorsement of their work to the medical profession in Nebraska, and commending them to the people at large.

September and October are opportune months for county society meetings, and arranging programs for fall and winter meetings. The election of officers, selection of delegates, and payment of dues for 1920 should be completed, so each county secretary can make his entire annual report to your State Secretary-Treasurer in December, 1919.

Medical Education.

The Council on Education of the American Medical Association has many times called attention to the great need of improvement in medical education throughout the country. Much progress has been made, due in great part to the unremitting labor of this council working in close cooperation with the Association of American Medical Colleges. The results of this combined effort can be seen in the great reduction in the number of medical colleges in the United States during the past ten years. This means that on the one hand, those schools which were below the minimum standard and were practically little more than medical diploma factories have been forced to discontinue and on the other that there have been combinations or mergers of two or more schools in order to make a single strong school.

In addition, the campaign has stimulated all the institutions of medical teaching to greater effort to raise the standard of service which they are giving to those who undertake the study of medicine. For if the schools require higher preliminary educational standards of those contemplating the study of medicine, they are forced in all justice to afford greater facilities for learning in return. This trend is shown throughout the entire country in the new buildings and equipment which have and are being added to the medical schools.

That the State of Nebraska has not been behindhand in this program for the betterment of medical education can be seen by the progress of the Medical Department of the State University during the past six years. This has been marked by continually keeping pace with the trend of the times and the past year, even in spite of the drawbacks incident to the war, has seen the start of new buildings for the housing of scientific departments and the University power plant which are described more fully elsewhere in this issue of the Journal.

The Legislature of the State of Nebraska is to be congratulated upon its cordial cooperation with the medical authorities and its wisdom in aiding them to keep their State abreast of the times in matters of medical education.

Constitutional Convention.

It is desirable to call the attention of the Medical Profession to the Constitutional Convention to be held December 2, 1919. The last Legislature by an act provided for the calling of this convention, its purpose to rewrite the constitution of the State of Nebraska. This convention will consist of 100 members elected from the state representative districts, and in the same number as the representatives to the State Legislature. The election to take place November 4, 1919. In case there are three times as many applications filed as there are representatives a primary will have to be held first. It is of the utmost importance that the medical profession take an interest in this selection of members so that our interests may be duly protected in the forming of a new constitution. Be sure to send the right man from your district.

K. S. J. Hohlen, Chairman,
Campaign Committee.

Letter from Henry L. Akin, Major M. C.

Paris, June 15, 1919.

Editor the Nebraska State Medical Journal:

The Hospital Cochin where Prof. Widal has his medical service is a very old one in its foundation as it has grown up on the basis of an institution for the care of the sick founded by a monk, named Father Cochin, some six or seven hundred years ago. Although it was founded long ago one would be greatly mistaken to imagine it now as in any way antiquated or lacking in modern equipment as it has been entirely rebuilt in the last fifteen years and is a model of cleanliness, good lighting and ventilation, fine wards and spacious laboratories. It is arranged on a sort of pavilion plan, each department having its separate building and that in which the Widal Clinic has its home consists of a long central hall with laboratories on each side of it, and at each end, forming wings two fine wards, four in all giving room for 125 to 150 patients, who are cared for by a corps of women nurses giving excellent service. It is one of the finest hospitals in Paris up to the minute in every detail, building, wards, laboratories, nursing and medical service and it is well worth an effort to see it and to follow for a time the work which is being done there.

In a former letter, I wrote you of the splendid original work which this Clinic had done on the subject of nephritis, acute and chronic, and this time I wish to call your attention to another important contribution to medical knowledge which has recently come from there and which is very logically and completely set forth in a book recently published here in Paris by Dr. M. Brule entitled "Recent Researches upon the Subject of Icterus." The Widal Clinic has for a long time been interested in the study of icterus and of the special conditions of the liver underlying it and inspired by their success in establishing the physiological activities of the kidneys as a basis upon which to study and classify their pathologic manifestations and upon which to treat the different conditions thus determined, they have attacked this second problem from a similar point of view as nearly as it was possible to do so and have succeeded in showing what changes actually occur to produce icterus and at what point and how these changes take place and the results of this work which has been carried on over a period of ten years, Dr. Brule now presents in his book.

The classical theory of bile retention has long been that every retention was due to an obstruction of one kind or another in some of the various channels through which the bile flows. Such an opinion, indeed, was only natural because of the very numerous cases of obstruction of the ductus choledochus or the hepatic duct by calculus, cancer or pancreatitis and to which the rapid progress of surgery has drawn particular attention. Upon the basis of these well known facts conclusions have been arrived at which are now found to be too general and not in accordance with the conditions as they really exist. This theory of obstruction has been very greatly and very ingeniously elaborated upon and supported by various hypotheses constructed to make it fit in well with different clinical facts observed in the various diseases of the liver accompanied by icterus but the basis of the whole structure has always been rather a mechanical than a physiological or pathological one, viz: some mechanical obstacle obstructing the flow of the bile into the intestine so that it is thrown back into the blood stream and thence into the urine.

Now if this theory were true all the elements which constitute the bile would appear in and disappear from the urine at the same time but such is not in reality the case. The bile salts and the bile pigments are the constituents which we are principally interested in and all possible combinations and variations of their quantities can actually be found and most important of all you can find in a great number of cases—dissociated biliary retention—that is to say you can have the bile pigment retained while the bile salts pass normally into the intestine, or the bile salts retained in the blood and urine while the bile pigments pursue their normal course. Such facts indicate the intervention of some force guided by intelligence which brings about one condition or the other according to the varying circumstances of the case. This agent or force is the hepatic cell.

Brule further shows that the theory of obstruction is no longer tenable by establishing the fact that in several diseases which are characterized by marked jaundice there is no lesion whatever of the bile passages, either the large ones or the very minute ducts which lie closest to the individual cells. The best exemplification of this fact is found in the icterus due to the spirochaeta icterohemorrhagica first described in 1914 by the Japanese. Although the jaundice is extreme in this condition, the most careful examination of specimens taken from the livers of human beings and animals dead from this disease fails to reveal the slightest lesion of the bile passages at any point, while on the other hand the lesions of the parenchyma of the liver are very marked. Similar conditions are found in alcoholic cirrhosis, in hypertrophic cirrhosis and in toxic icterus due to phosphorus or chloroform, the bile passages are unchanged, while the parenchyma—the hepatic cells—shows every grade of change. Brule puts the whole subject into a few words in his introductory chapter when he says, "We shall see how far this conception of an icterus produced by a lesion of the hepatic cell goes toward clearing up the clinical study of jaundice; biliary retention under its different forms is found in all the affections of the liver whatever be their nature; the clinical types, so varied, which icterus assumes are the result not of lesions situated at various points along the course of the bile passages but of lesions more or less severe, situated always in the parenchyma of the liver; this explains how all the intermediary stages can exist between the slightest forms of biliary retention and icterus gravis."

The author also opposes entirely the idea of an ascending infection of the biliary tract that is that certain microbes find their way from the intestine by way of the choledochus to the minute bile passages and there set up inflammation and he seems to have established in a very conclusive manner that all such infections take place by way of the blood and that it is thus a descending rather than ascending infection which is the causative factor in infectious icterus. A matter of considerable interest is the great value which Dr. Brule attaches to the Hay Test for bile salts which is made by sprinkling a little flowers of sulphur on the surface of the urine to be tested. This is a very simple test but is extremely accurate and useful and the best one we have for bile salts in the urine. It fell into disrepute for a time because it was found to be always present after chloroform or ether anesthesia and where patients had been taking the salicylates or iodide of potassium and the positive reaction in these cases was thought to be due to the presence in the urine of a certain amount of these chemical substances. It is now known that the reaction is always a true and a delicate one and if it is positive under these conditions it is because bile salts are present in the urine after anesthesia and following the use of certain drugs for the reason that they cause an irritation of the hepatic cells and a partial biliary retention results.

The chapter on the mechanism of biliary retention by the liver cell is very interesting and important but it would take too long to give a resume of it here and we will defer that to another time.

The details of the work as set forth and the conclusions reached as set forth are of the highest interest and value and it seems to me that they are destined to revolutionize many of our ideas as to the conditions existent in various diseases of the liver and to bring about important changes in our methods of treatment of the same.

Henry L. Akin,
Major M. C.

GENERAL NOTES.

Lieutenant Commander R. B. H. Gradwohl, Medical Corps, U. S. N. R. F., has returned from the Service and resumed his work as director of the Gradwohl Biological Laboratories and Pasteur Institute of St. Louis.

The largest sugar purchase in history was made last November when the Quarter-master Corps bought thirty-two million pounds.

The Bureau of Science in the Philippine Islands is distributing plans and specifications for the building of bat roosts. The idea is to fight mosquitoes with bats.

Between July, 1914, and the summer of 1918 the United States sent enough food to the Allied countries to feed sixty million people for one year as well as proteins for an additional twenty-three million. Ninety-nine per cent of this amount went to France and England.

Inspired by the success of the United States Chemical Warfare Service, American chemists are planning an American National Institute of Drug Research with a ten million-dollar foundation, which will seek to turn to medical use the knowledge of the effect of chemicals upon the human system.

The artificial silk industry was started in the United States in 1914. In 1918 this country exported three million dollars worth of wood-pulp silk.

Between November 11, 1918, and April 19, 1919, according to the War Department's announcement, over thirty-nine million pounds of candy, more than five million packages of salted almonds and peanuts, and over two million packages of popcorn confection, were purchased for our soldiers overseas.

STATE NOTES.

Dr. and Mrs. E. A. Van Fleet of Omaha, motored to Colorado for a month outing.

Drs. and Mrs. A. L. Kee of Cambridge are spending a two weeks vacation autoing in Colorado.

The Lutheran Hospital Association at Beatrice has enlarged their building and furnished it with modern equipment.

Mrs. Clara Quimby from Colorado is superintendent of the Girls' Industrial Home at Geneva. She succeeds Paul S. McAulay, resigned.

Dr. C. C. Johnson, formerly of Creighton, has returned from overseas service in which he attained the rank of lieutenant-colonel and has located in Lincoln.

The laundry and engine house at the Green Gables Sanatorium were recently destroyed by fire. They are being replaced by larger and more modern buildings.

Dr. Louis E. Moon has returned from New York, where he has been taking some special work in diseases of the stomach, intestinal tract and the rectum, and will be located in the Brandeis building.

Drs. H. L. Akin and Clyde Moore, both of Omaha, have returned from overseas service and have resumed civil practice. They will be located in the City National bank building and Brandeis building respectively.

The new Lord Lister Hospital to be located on Twenty-sixth and Dewey Ave., Omaha, will be built soon if the labor can be secured. Nebraska has 75 hospitals, inclusive of State Owned and Controlled Institutions.

The Medical Society of the Missouri Valley will hold their "Home Coming" meeting at Des Moines, Iowa, Thursday and Friday, September 18-19, 1919. The meeting place and headquarters will be at Hotel Fort Des Moines.

The Elkhorn Valley Medical Society met in Norfolk July 29th.

The attendance, 40.

The officers are: John D. Reid, Pilger, President; A. P. Overgaard, Omaha, Secretary.

The Sioux Valley Eye and Ear Academy of Iowa, Nebraska and South Dakota met in Omaha July 22nd. The attendance was not on a par with the worth of the papers presented and discussed. Three of the essayists submitted their manuscripts for publication in the Journal.

Drs. A. L. Kee and family of Cambridge, Palmer Findley and family and E. A. Van Fleet and friends of Omaha, and T. M. Zellers of Hooper, Neb., motored to Colorado in July for rest and pleasure in the mountains. Dr. W. O. Bridges, Omaha, is rusticating among the Thousand Islands. Dr. H. M. McLlanahan is convalescing from a serious illness. Dr. E. R. Stuart of Blair has purchased the drug stock of Farnam and Simpson. His son Harold will conduct the business.

DEATHS.

Dr. D. B. McMahon, some years ago a practitioner at Clarkson, Newman Grove and Humphrey, died at the Norfolk Hospital for the Insane early in July.

Charles Calvin Moyer, Lincoln, Neb.; Baltimore University School of Medicine; 1893; aged 53; a member of the Nebraska State Medical Association; died at his home July 30.

Abraham Jacobi, New York City, for more than sixty years one of the most notable figures in American Medicine, President of the American Medical Association in 1912-1913, died suddenly at his summer home, Lake George, N. Y., July 10.

Dr. Jacobi was born at Hartum, Westphalia, Germany, May 6, 1830. He studied at the Universities of Greifswald and Gottingen, graduating from the University of Bonn in 1851. He was intimately identified with the German revolutionary movement in 1848 for which he was imprisoned for two years under a charge of high treason. In 1853, while under sentence, he escaped to England and attempted medical practice unsuccessfully at Manchester, and then migrated to America, settling first in Boston and later moving to New York City. In 1860 the New York Medical College established the first professorship of diseases in children and invited Dr. Jacobi to accept this chair. This position he held until 1864, when he accepted a similar position in the University of New York. In 1870 he became professor of pediatrics in the College of Physicians and Surgeons, holding this position for twelve years and retiring as emeritus professor.

Dr. Jacobi was actively interested in his profession up to the moment of his death; thus at the age of 88 years he attended the annual session of the Association in Chicago and was a conspicuous figure at all of the meetings. Although a German by birth, Dr. Jacobi was an ardent American. One of the most significant tributes of his life was the urgent invitation extended to him, October, 1893, to become professor of pediatrics in the University of Berlin, and this position he refused with the historic words, "I was, I am, rooted to the American profession that I have observed to evolve without governmental aid out of its own might to become equal to any on the globe."

The man who is aware of his ignorance knows a whole lot more than some people, and he stands a better chance of making good.

When a girl is entertaining a young man in the front parlor—that's capital. But when she has to half sole his trousers after marriage—that's labor.

Private Library
DR. C. C. HICKMAN.

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Mitral Stenosis.*

LeRoy Crummer, M. D., Omaha.

The discovery, in the examination of recruits, of a condition presenting very few of the classic physical signs of mitral stenosis, but which was in fact true mitral stenosis, has brought about a new interest in the diagnosis of this condition.

The text books, for years, have given us the idea that mitral stenosis always presents a presystolic thrill at the apex, and upon auscultation, a loud presystolic murmur. In small type, usually, there are described events in diastole, in the form of early mid-diastolic murmurs of peculiar quality, or an interpolated sound in ¾ rhythm. While not definitely stated, it is implied that these variations occur only in the course of months as the severity of the condition advances. The classic combination of thrill and murmur do mean mitral stenosis, but if this is relied upon for diagnosis, a very large proportion of the cases of real mitral stenosis will be missed.

One great difficulty experienced by the Recruit Examiners was in so standardizing their examinations that cases of mitral stenosis not presenting these classic manifestations could be rapidly determined.

In the ordinary clinical practice, we have the history which presents the case to us; usually some form of cardiac decompensation which has disturbed the heart muscles enough to give us definite changes in the size and shape of the heart. This, of course, played no part in the recruit examinations where the diagnosis had to be made not only without history, but practically, where the cases had never been decompensated.

The Lung Examiners taught us a very valuable lesson in establishing the principle of always going from the healthy to the pathological in examination. In other words, to always find the normal or standard in the individual lung before proceeding to the complete examination of the lungs. If it were possible to adopt this method in auscultation of the heart, a great many difficulties would at once disappear. I think such a standard in heart examination can be made of the first sound of the heart. Without going too deeply into the theories of the causation of the first heart sound, let me say, that the theory of Martius, which is sustained by Howell, at least gives us a working basis upon which the study of the first sound of the heart can be based. According to Martius, the first sound of the heart begins at the time of total closure of the ventricles. That is, there is an instant at the beginning of systole after the auriculo-ventricular valves are closed and before the semilunar valves are raised, during which time there is no movement of the mass of blood within the ventricular chambers. It is during this time that the first sound begins. The events are synchronous in both sides of the heart in health, and the sounds are alike in every way, except intensity; that is, we have a first sound generated by the activity of the right ventricle, and also one generated in the left ventricle.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Cabot makes the statement that the first sound, right and left, cannot be differentiated by auscultation, but it seems to me, a little practice will enable us to pick out the difference in these sounds, particularly when there is cause for change in the tone quality of the sound due to disease of either valve or muscle. Inasmuch as most of these diseased conditions exist in the left heart, we find, practically always, that the first sound of the heart as heard over the right ventricle is normal. The spot for auscultation is not at the ensiform cartilage where we listen for the murmur of tricuspid insufficiency, but is slightly to the left of the sternum in the 4th or 5th interspace. This place must be selected with due care so as to avoid disturbance in the sound quality due to conduction. The sound heard here can be considered as standard and is equivalent to the normal breathing sound of the lung. In other words, here, in practically all diseased hearts, we find the sound which most nearly approximates the normal first sound of the heart. In pathological conditions, comparison of the sound at this point with the sound heard at the apex, enables us, quickly, to get a picture of what is described as snappy first sound, booming first sound, or short first sound. After comparison of the first sounds, the second sounds are studied; then a careful survey of the events of diastole, and last only are systolic murmurs brought into the picture.

We offer this method of auscultation of the heart to replace the old method of first picking out murmurs. This is the more necessary as we have learned to practically disregard the systolic murmur in ultimate heart valve diagnosis. This applies, not only in general, but also to the very frequent diagnosis of mitral insufficiency with mitral stenosis, when this is based upon presence of the systolic murmur alone, in addition to the data upon which we base the diagnosis of stenosis. From a physiological standpoint, this is incorrect as such a diagnosis can be based only upon the size of the left ventricle.

In mitral stenosis, we have the apex beat, usually visible within the normal limits, and on palpation, in a certain proportion of the cases, the presystolic thrill, and systolic shock. I hesitate to say how small this percentage is, but will venture to state that if the diagnosis of mitral stenosis is based upon this, at least seventy-five percent of the cases will be missed. From the other standpoint, a thrill, which is really systolic, but frequently difficult to time exactly, is found in a very large proportion of the thin-chested individuals, and also in those convalescing from any of the acute contagious diseases. Therefore, diagnosis based upon a thrill is a frequent source of both positive and negative error. Systolic shock is a peculiar and easily determined sensation, and present in many cases which do not have presystolic thrill. When typical, it is most distinctive, but I have recently seen a case where the peculiar shock of a premature contraction almost led to error in diagnosis.

Percussion, we have been taught is also one of the exact methods of diagnosis, but, particularly in the mitral stenotic heart, the possibility of error in percussion is great. Theoretically, we should have the double curve of the left border due to enlarged auricle, but this is practically impossible to make out, and I might add that finding this double border on the X-ray plate is more a matter of luck than ability. The enlarged right heart, spoken of so glibly, cannot be demonstrated in cases which have not had a previous decompensation and consequent dilatation of the right ventricle. The inherent source of error along the right border of the sternum is so great that proper conclusions can scarcely be drawn in the average case.

You will gather from the above that the diagnosis of mitral stenosis rests almost entirely upon auscultation, and the one constant indication is a snappy first sound. It is extremely difficult at times to differentiate this snappy first sound from the quick rapid first sound of exopthalmic goitre, or other rapid pulse, or rapid first sound which is present in many cases of vasomotor instability. But, by comparison of the first sound, right and left, one quickly learns to positively pick out the snappy first sound of mitral stenosis. The diastolic murmurs which may be heard in mitral stenosis depend for their production upon the combination of three variables; first, the extent of the stenosis, which is almost always progressive; second, the three different rates of the flow of blood from the auricle to the ventricle during diastole; and third, upon variation in the size of the heart itself, which is dependent upon the rapidity of the pulse rate. Consequently, while the typical presystolic roll is the most frequent, we may have innumerable and variable phenomena during diastole, and these sounds change, not from month to month, or year to year, but from moment to moment, especially in early cases. Add to these the changes which are produced in auricular activity by fibrillation, and you can see at once the difficulty encountered in the diagnosis of mitral stenosis. This again forces upon our attention the necessity of being able to pick out and definitely recognize a snappy first sound left. If this be present, a diastolic murmur of whatever type, except aortic regurgitation, is sufficient to prove the diagnosis of mitral stenosis.

When a snappy first sound is heard, the events in diastole must be studied very carefully, not only in the erect, but also in the recumbent posture, as well as after various degrees of exercise. There is no fixed rule as to which procedure will bring out most clearly the diastolic murmur, but usually within a few minutes some diastolic change can be demonstrated in most cases of mitral stenosis.

Whenever there is a systolic murmur and a first sound at the apex, a careful comparison of the first sound right and left must be made, and if the first sound left is snappy, the same effort must be made to find a confirmatory diastolic murmur. The mere presence of a systolic murmur and a snappy first sound left does not mean that we have an insufficiency in addition to stenosis, but means that the conditions of conduction are such that we can hear the systolic murmur, which, theoretically, must exist in every case of mitral stenosis, because a valve which cannot open certainly cannot close. If we have a large left heart as demonstrated by the position of the apex beat, it is not compatible physiologically with the diagnosis of mitral stenosis, because stenosis, if present, must interfere with the filling of the ventricle during diastole, and per contra, if the ventricle is overfilled, there can be no physiological stenosis. This differentiation is of the utmost importance because the prognosis from the muscle standpoint is vastly different in physiological insufficiency, and the physiological stenosis.

In a certain percentage of the cases, a form of diastolic murmur, which is supposed to be due to a relative pulmonic insufficiency is heard. This Graham Steele murmur is heard along the left border of the sternum from the second to the fourth rib. This always suggests the possibility of aortic insufficiency, but the tone qualities and distribution of the murmur are usually characteristic enough to avoid confusion. In my experience, the Graham Steele murmur has not been constant, and can vary from time to time, and with change of posture.

The Flint murmur, theoretically, can cause difficulty in diagnosis, but when we study the cause from a physiological standpoint, we can usually arrive at a correct conclusion.

There is much discussion as to blood pressure findings in cases of true mitral stenosis. The old text books always spoke of a small pulse as characteristic of this valve condition. Blood pressure readings in the main confirm this, as we usually have a low pulse pressure. Readings of 120-90 and 115-85 are usual.

The response to the exercise tests is very characteristic in well established cases which come to us clinically. On very slight exertion, such as represented by 15 or 20 hops, there is sudden dyspnea accompanied by intense cyanosis of the hands, and the patient is quite unable to continue the exercise. In the early case, this explosion occurs somewhere between 50 and 75 hops, and while not so extensive, it is just as definite.

The pathogenesis of mitral stenosis is progressive fibrosis involving valve leaflets and extending into the muscle tissue of either auricle or ventricle. As a result of this myocardial fibrosis, fibrillation and paroxysmal tachycardia are more frequent in mitral stenosis than in any other heart condition. Either of the irregularities can so destroy conduction across the auricle that murmurs due to auricular activities cannot be present. The diagnosis of mitral stenosis in such irregularities must always be considered as probable unless a different diagnosis can be established.

As physicians, we are no longer so much interested in the anatomical diagnosis as we are in the physiological, and we determine the exact valve diagnosis only that we may estimate as exactly as possible the present and future condition of heart muscle.

Disturbances in pulmonary circulation in mitral stenosis are very definite. There is impediment in the onward flow of the blood from the auricle to the ventricle, and the burden of this increased work must be carried by two comparatively weak chambers of the heart, the left auricle and the right ventricle, and between them we have the increased amount of blood in the pulmonary arteries. Whenever exertion in any form makes a greater demand upon the heart than can be forwarded through the stenotic valve, we have engorgement of the pulmonary circulation which manifests itself in dyspnea. If the strain is continued, we then have spitting of blood, cyanosis and edema.

This means decompensation which is very easily treated, but our duty is done only when we tell our patients the story of mitral stenosis, which is that of a gradually increasing impairment of activities, with dyspnea, the danger signal; that whatever exertion brings on shortness of breath is too much. If we can teach our patients to regard this danger signal, they can live a quiet but comfortable life for many years.

Discussion.

Dr. Frank Conlin, Omaha.—I would like to say that I have been associated with Dr. Crummer some time and he has been able to show me how to interpret the first left sound by comparing it with the right in the way he has just described. Following his instructions I have been able to diagnose some atypical cases of mitral stenosis I otherwise would have missed.

Dr. Crummer said in his closing discussion: Dr. Mayhew brought up the question of neuro circulatory asthenia. I would like very much to have opportunity to go into a discussion on this subject, but it is not appropriate at this time. In the last ninety days I was in the service, I visited some nine camps, and in no two of them were they interpreting these cases the same. Unfortunately the preliminary work in the N. C. A. was done by the cardiovascular boards instead of by neurological examiners. In the early months of the service many cases were confused with mitral stenosis, but the proper differential points were soon determined, and such mistakes were not common after the first few months.

I would like to have an opportunity to demonstrate to Dr. Mayhew and the rest of you how easy it is to base the examination of the heart upon the study of the first sound.

We read "snappy first sound" as applied to the first sound in mitral stenosis in every text book, and if these words convey any exact impression, I have nothing further to advance, but if we can the more easily interpret this peculiar sound by comparison with a sound in the same phase and rythm which is absolutely normal, I think we may consider this a better method of diagnosis. It is surprising how many cases of mitral stenosis are missed because we do not study them carefully enough when the characteristic presytolic roll is absent, and yet if we learn to recognize the snappy first sound by comparison with normal first sound right, we then are induced to study the diastolic interval for confirmation.

Circular No. 21 of the Surgeon General's office gives explicit instructions that disregard the systolic murmur, and yet, most of us have considered this of the utmost importance in auscultation of the heart. For this reason again, I advocate careful study and comparison with the first sound right and left in order to lead to the proper diagnosis of mitral stenosis.

Aortic Disease.*

Frank Conlin, M. D., Omaha.

To classify disease according to its pathogenic agent and not by the name of the region affected or the function disturbed is the ideal of scientific medicine. Not until the last ten years, however, has much advance been made in classifying etiologically diseases that disturb the heart action. To speak of aortic regurgitation, aortitis, aneurysm, without taking into consideration the etiologic factor underlying them is not a sane procedure. The prognosis and treatment of all three conditions depending so much upon a proper etiological classification and diagnosis (Cabot).

In this paper we shall not attempt for lack of time to consider aneurysm, of which the etiology is considered by most authorities to be lues in at least 95 percent of the cases, nor shall we consider the degenerative type of aortic disease on the basis of arteriosclerosis and kidney conditions, but shall confine our remarks more particularly to aortitis and aortic regurgitation, for one cannot be considered without the other.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

We have been impressed by an article by Cabot in the Journal of the American Medical Association (Volume 63, No. 17) in which he has attempted to classify cases of failing heart disease from the etiologic point of view and has divided them into rheumatic, syphilitic, arteriosclerotic, and nephritic, these four types making up 93 percent of a series of 600 cases. Goitre heart and doubtful cases make 7 percent of this series.

In a series of forty-one cases of aortic disease that we have seen in private practice and at the University Hospital we have attempted to classify etiologically each of them. Of this series thirty-two were definite aortic regurgitation, five aortitis, and four were aneurysms. I will shortly go into more detail about the etiology of these conditions in this series of cases. Suffice it to say at this time it has been our impression as a result of this investigation that although syphilis is undoubtedly the cause of the majority of cases of aortic disease rheumatism* has not, to our minds, received the blame that is due it. The attention paid to syphilis as an etiological factor as a result of the work of such men as Longcope, who obtained positive Wassermanns in 74.1 percent of his cases, Larkin & Levey who found positive Wassermanns in 94 percent of their cases, Brooks (American Journal of the Medical Sciences 1903) who found in a series of fifty consecutive autopsies, syphilis in 66 percent of the cases which died as a result of serious circulatory disease, and Warthin (American Journal of the Medical Sciences 1914) who has shown that the heart and aorta are the sites of early predilection for invasion by the Treponema Pallidum.

Aortitis.

Aortis acute (Dielafoy) is a common condition met with in practice. It may behave as an acute endocarditis or may pass unnoticed for a long period of time. It may cause loss of weight, a marked feeling of oppression in the precordial and epigastric regions, and in many instances may simulate angina pectoris, the pain being retrosternal and stabbing in character and radiating to the arms. Many of these cases run temperatures for long periods of time, this may be a slight rise, or may be with marked diurnal elevation. This condition may be accompanied by dyspnea which may or may not be paroxysmal. During these attacks there is a marked pulsation in the carotids and the presence of fine rales in the lungs indicates congestion with edema.

Chronic Aortitis is a much more common condition, which is frequently overlooked. The patient comes complaining of substernal pain, dull boring in character, increased on exertion, and particularly noticeable on exertion on a cold day: dyspnea that may be present constantly or attacks of paroysmal dyspnea, and angina pectoris; cardiac hypertrophy, increased pulsation of the vessels of the neck and the physical signs of dilatation of the arch of the aorta. Physical examination reveals the normal transverse dullness of two inches exceeded and the dullness may extend to three or three and a half inches. On auscultation the first aortic sound which normally depends upon the sudden tension of the aorta may be exaggerated and may be harsh and blowing; the second sound, due to closure of the valves may be sharp and metallic, due to loss of suppleness of the valve segments, and, on account of a mesaortitis extending to the valve segments there may be a concomitant aortic insufficiency.

Etiology.

Regarding the etiology of this condition of a series of sixty cases at Johns-Hopkins Hospital cited by McCrae, (Vol. 140, No. 4, American Journal of the Medical Sciences) fifty-four were males and six were females. The larger proportion of the cases ranged from 30 to 60 years of age; 39 were white, 21 were colored.

Exertion and strain are considered by many as etiological factors and of the 60 cases quoted by McCrae 39 did hard muscular work. Of the series 47 used alcohol either moderately or excessively.

"The acute infectious diseases are now held as of rather more importance as etiological factors of this condition than they were formerly and it is reasonable to suppose for example, when we consider how much damage may be done to the aorta by typhoid during its course that later changes may also occur." (McCrae). Scarlet fever, influenza and diphtheria, may also cause aortitis (Albutt Vol. II).

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*(I use the word rheumatism here in the broad sense of the term to include the various streptococcic infections.)

During rheumatic fever there may be an acute aortitis, (Klotz Trans. Assn. Am. Phys. 1912)—usually with an aortic endocarditis, but not necessarily so (Albutt-Arteries Including Angina Vol. II).

Of McCrae's series of 60 cases there was a definite history of rheumatism in 13 and doubtful history in six more. A striking feature is the large proportion of the younger patients giving this rheumatic history. Of those under 40, of which there were 18, 9 gave definite histories of rheumatic fever. Pathologists describe various acute inflammatory changes that occur at the root of the aorta in rheumatism but state that it manifests a tendency to spontaneous subsidence.

Arteriosclerosis, the etiology of which might be summed up by quoting from Osler's Oxford address, as "Time, tension, and toxins", undoubtedly causes a large proportion of cases of aortitis in older individuals. It is no surprising thing in post mortem examination to find evidence of sclerosis involving the arch of the aorta. There may be no other external evidence of arteriosclerosis. When we remember that with every systole of the heart fifty to one hundred cc. of blood are forced into an already filled aorta, and this occurring as it does seventy to eighty times a minute, causing an expansion of the aorta and the arch with each pulsation, we can understand the strain the aorta is put to.

Syphilis is, of course, the most important etiological factor in considering previous diseases. Of McCrae's series of 60 cases 17 gave a definite history and 8 probable histories. From the frequency with which syphilitic aortitis is found accidentally at autopsy (according to Eich 42.8%) (Obendorfer 6.89% of all the autopsies, Munch. Med. Woch. 1913 XL-505) we may assume that the infection may be harbored in that part of the vascular system for years without detection, indeed it might appear that the aorta is one of the main situations in which the infection may locate in latent syphilis (Elliott, American Journal of the Medical Sciences 1917). According to Longcope (Archives of Internal Medicine 1913) it takes place during the secondary stage and although the symptoms and signs of syphilitic aortitis with the complications may develop within a few months of the infection (Brooks-Longcope-Elliott), the process usually remains latent or unrecognized for a period of sixteen to seventeen years. Thus syphilitic aortitis is probably a common cause of the positive Wassermann reaction in the so-called cases of latent syphilis.

Pathology of Aortitis.

Marchond, Buida & Chiari (1903) were among the first to describe the pathological picture of aortitis and they were the first to show that the condition is a small cell granulomatous infiltration of the media along the course of the vasa vasorum. Accompanying or following this infiltration there is an atrophy of both muscular and elastic elements of the tunica media, the intima presenting various grades of thickening, due to heaping up of cells of the connective tissue type. The syphilitic type of aortitis usually attacks the ascending and transverse sections of the aorta and the abdominal portion where the celiac axis is given off. Klotz (Transactions American Physicians 1913) explains this localization as due to the relationship of the lymphatics.

Diagnosis of Aortitis.

There are two groups of cases of aortitis which come for diagnosis, one suggesting heart, the other angina pectoris. In the early stages the symptoms are seldom clearly defined. Of the symptoms, the pain, retrosternal in location, accompanied by paroxysmal exacerbations, and anginal-like symptoms are the most important (Cummar & Dexter, Journal Am. Med. Assn. 1912). Dyspnea, hoarseness, paroxysmal cough, tachycardia, arythmia, general weakness, and in some cases fever, are among other symptoms of which these patients complain. In the examination of cases of simple aortitis where it has not extended to involve the aortic ring or has not stretched to cause aneurysm one must depend largely upon the size and shape of the aorta and heart. In the cases with moderate dilatation it is sometimes possible to see the pulse in the episternal notch and to demonstrate a widened area of dullness over the region of the manubrium. In more advanced cases a distinct pulsation is usually present in the second and third interspaces to the right of the sternum, in the episternal notch, and occasionally beneath the clavicle. There is a broad area of dullness over the manubrium extending to the right and left one to three centimeters. This change combined with the changes of the first and second aortic sounds already mentioned are suggestive. Kukovieroff (Russki. Vrach. 1910) calls attention to a new sign present before other manifestations, which consists of a systolic bruit heard over the course of the beginning of the aorta in the region of the second and third costal cartilage on the right side. This bruit is present when the arms are raised above the head. It comes from the root of the aorta and is due to vibrations in the blood column produced by the sclerotic condition and accentuated by the position of the arms.

Our most valuable aids in the diagnosis of obscure aortic disease are the Wassermann test and the Roentgen ray. It is now generally conceded that a positive Wassermann means active syphilis somewhere in the body (Boas), and the most probable locations are in the Central Nervous System or in the Cardio-Vascular System.

An interesting point that I should like to mention at this time that was emphasized by Longcope, is the frequent association of aortic disease and tabes. Of 24 cases quoted by Longcope 6 had tabes.

Aortic Regurgitation.

Among the etiologic factors to be considered in the development of an arotic regurgitation might be mentioned (1) arteriosclerosis, (2) syphilis, and (3) rheumatism. Syphilis is undoubtedly the most important cause of aortic regurgitation, rheumatism comes next, pyogenic infections next, and a small proportion of cases are due to rupture of the valve. In these few cases however there is usually an antecedent valve lesion. Longcope makes the statement that practically every case of aneurysm is upon the basis of syphilis, and that 75 percent of the cases of aortic regurgitation are due to syphilis. Citron obtained a positive Wassermann reaction in 10 of 16 cases. Fiessenger obtained a definite history of syphilis in 28 of 37 cases. Collins and Sachs found positive Wassermanns in 10 of 13 cases, and Babcock (Journal of the American Medical Association 1916) found that of 16 cases of aortic regurgitation 11 gave positive Wassermanns. Anders (Journal of the American Medical Association 1913) investigated 219 cases and found 60 percent to be due to lues.

The attention paid to syphilis as an etiological factor in aortic regurgitation has almost convinced the profession that it is the only factor. We have been impressed with the importance of rheumatism as an etiological factor and in the series of cases already mentioned, of the 32 cases of aortic regurgitation 17 gave a history of rheumatism, 2 a history of typhoid, one of measles, 10 of syphilis. Wassermann reactions were done in the larger proportion of these cases and of the cases that I have cited giving a history of rheumatism the Wassermann reaction was negative. It might be well to emphasize a point that we may not bear in mind when considering the statistics of these men (Longcope, et al), that is, that they have been taken from patients entering charitable hospitals of large cities. It is our belief that in routine practice this proportion is high and we are convinced from figures obtained from our work, that although syphilis does play the most important role in the etiology of aortic regurgitation rheumatism is likewise important.

Diagnosis.

The aortic valves being contracted as in syphilitic aortitis or covered with vegetation as in rheumatic aortitis, are no longer able to support the column of arterial blood during diastole but permit a backward flow into the heart. As a result we find certain alterations in the character of the second sound and in the arterial pulse. The closure of the valve no longer gives the second sound the characteristic snap but the second sound ends in a murmur sometimes long drawn out, sometimes so brief as to be scarcely perceptible, as if the second sound terminated not abruptly but with, as McKenzie describes it, a faint sigh. The diastolic murmur is usually propagated down the sternum but at times is heard loudest at the apex. Foster has suggested that this variation in the propagation of the murmur depends upon the position given to the backward flow by the retracted valve. Sachs calls attention to a few physical signs that may aid in the establishment of the rheumatic character of some cases of aortic regurgitation. He states the enlargement of the left ventricle is not so marked as in other forms and therefore the capillary pulse and the Durroziez sign are not so frequently found, and that there is more marked arrythmia in the syphilitic type of aortic regurgitation. McKenzie in "Diseases of the Heart" states that aortic regurgitation on the basis of rheumatism is usually accompanied by aortic stenosis, but that the stenosis is frequently overlooked since the regurgitation dominates the situation.

It has been our observation that many of these cases of aortic regurgitation upon the basis of rheumatism upon careful inquiry into the history will show evidence of a previous endocarditis and careful physical examination will show evidence of mitral involvement. In other words, rheumatism first affects the mitral valve most frequently and in the second attack it affects the aorta. If aortic insufficiency is primary and not upon the syphilitic basis careful history will frequently reveal evidence of a pneumococcus infection (Von Neusser). Certain cases of mitral stenosis exhibit a diastolic murmur along the left sternum toward the base (the Graham-Steele Murmur), and certain cases of aortic insufficiency a presystolic murmur at the apex (the Flint murmur), which makes the differentiation between these two (Goodman, American Journal of the Medical Sciences, 1919). A few points on this differentiation: On palpation the apex beat in regurgitation is found to be heavy and last for some time while in stenosis the apex beat is felt as a single tap which quickly subsides and is localized to a small area. No distinction can be made between the thrill of a stenosis and that of a Flint murmur, and if there is a mitral insufficiency as well as a stenosis the location and character of the apex beat are not of so much assistance in differentiating the two conditions. On percussion the presence of dullness due to the hypertrophy of an aortic regurgitation is a valuable finding in differentiating. Vascular signs such as Corrigan pulse, the capillary pulse, Traube's sign, blood pressure in the arm and leg and the persistence of the fourth phase in the auscultatory transmission are important points in the two conditions. The presence of a systolic murmur at the apex that can be heard all over the precordial region by conduction may often mislead one. Especially is this true in those cases in which with the aortic regurgitation we have an enlargement of the heart which presses it downward and backwards tipping the left side of the heart up and bringing the systolic blow closer to the surface and the diastolic blow further away. Careful tracing of the murmur to its point of maximum intensity and careful timing of the murmur will frequently demonstrate the presence of the second diastolic murmur which in most cases is the more important of the two.

Prognosis of Aortic Regurgitation.

The prognosis of aortic regurgitation depends upon the degree of valve involvement, and upon the ability of the heart muscle to gain reserve force under the treatment which is indicated whether it be rheumatic infection or syphilitic. The severity of the disease cannot be guaged by the loudness of its murmur and the only criterion we should use in the prognosis of this condition is the functional capacity of the heart muscle. An increase in the tone of the murmur is frequently a good prognostic sign and diminution of the intensity an indication of a failing heart. According to Elliott syphilitic aortitis before it involves the valve is often latent; after it has produced aortic valve involvement its progress is rapid, often bringing life to an end in two or three years. Aortic regurgitation of syphilitic origin does very badly because of the association of deformed valves and constricted coronary orifices. The prognosis in these cases is far more serious than in cases of rheumatic origin, the compensation being less well established, and the aorta more severely damaged (Elliott, American Journal of the Medical Sciences, 1917).

Clifford Albutt says ten years is the average, while Anders (American Journal of the Medical Sciences, 149, 1910) states that under favorable conditions patients may live thirty to forty years.

Treatment of Aortic Regurgitation.

The treatment of aortitis, aortic regurgitation and angina pectoris on the basis of syphilis is a difficult matter. The spirochetes have been shown to lie in the walls of the aorta, often in the intima thickened by a clot of cellular tissue or in the necrotic foci of the media. To these localities there is but little blood or lymph supply and the organisms are further protected from the circulation by old inflammatory tissue. Under existing circumstances it is extremely difficult to reach the organism by way of the blood stream. For this reason, although large doses of mercury and salvarsan are of undoubted help, potassium iodide should also be used in massive doses for it has been shown by the studies of Jobling and Peterson that potassium iodide through its union with the nonsaturated soaps inhibits in vitro very markedly the anti-triptic action of blood and that when added to caseous material it hastens to a considerable extent autolysis. For this reason it is a valuable aid in that necrotic material in the wall of the aorta will be dissolved and the spirochete left more open to attack of the salvarsan and mercury.

The treatment of rheumatic endocarditis is that of rheumatism any place in the body. Salicylates plus removal of focal infection.

Conclusion.

The subject of aortic disease is much too large to be covered in one paper and I have purposely refrained for lack of time from taking up aortic disease on the basis of injury or strain, arteriosclerosis or kidney conditions, and have attempted not to minimize the importance of syphilis as an etiological factor but to emphasize the importance of rheumatism. I have attempted to show that an aortic regurgitation with a Flint murmur may be mistaken for a mitral stenosis with a Graham-Steele murmur; that you may have aortic disease due to syphilis where, with the aortitis you may have an angina, an aortic regurgitation, an aneurysm, all with a bad prognosis, or that aortic disease due to rheumatic infection may be with a fairly good prognosis; that during the course of rheumatism one should be watchful for the aortic endocarditis as well as for the mitral endocarditis.

Discussion.

Dr. Crummer.—The question of aortic disease is full of interest and while, generally, every heart condition showing a diastolic murmur at the base is called aortic insufficiency, in reality we have two very distinct diseases. There is no similarity whatever in prognosis or treatment in aortic disease of infectious origin, and that of degenerative origin. The great difference between these two conditions is based upon the structure and function of the aortic arch. From a mechanical standpoint, the aortic arch is the most perfect shock absorber imaginable. Its function is little, if any, impaired in a disease of infectious origin, but in its elasticity it is impaired from the very beginning in degenerative disease.

In aortic insufficiency of infectious origin, always consider pneumonia as the most probable etiological factor. In combined lesions rheumatism plays a role, but in pure infectious aortic insufficiency I think pneumonia stands in first place.

In aortic insufficiency of the degenerative type, whether syphilitic or arteriosclerotic, the elasticity is the first thing that suffers. This degeneration usually begins in the adventitia and spreads along certain well marked lines. Degeneration starting in the adventitia may advance so as to form sacculated aneurysm, dilatation of the aorta, aortic insufficiency, or coronary stenosis. All these have in common the destruction of the elastic function of the aortic wall. In this connection it is interesting to note that it takes longer for syphilis to advance sufficiently to produce symptoms in the aorta than it does in the nervous system. It is usually seventeen to twenty years after the primary infection before the patient has sypmtoms that bring him to the physician. He is then generally in such an advanced condition that relief by anti-syphilitic treatment is impossible. If we could make the diagnosis earlier, there is no reason why we should not at least stop the progress of the disease. Consequently, I am going to ask you to do just one thing. Whenever you hear a systolic murmur at the base, conducted into the vessels of the neck, even without any other manifestations, consider that an indication for a Wassermann test, and if positive, institute immediately the proper treatment.

Ocular Manifestations of Lethargic Encephalitis.*

James M. Patton, M. D., Omaha.

Lethargic encephalitis has been described (British Medical Journal, 1-11-19) as a general infection characterized by manifestations originating in the central nervous system of which the most frequent and characteristic are progressive lethargy and paralysis of the cranial nerves, especially the third and sixth pairs; the symptoms arising from inflammatory lesions occurring at the base of the brain.

The involvement of the third and sixth nerves with corresponding disturbances of the ocular functions in some cases is the first thing complained of by the patient, as a result that the oculist is sometimes consulted first instead of the neurologist. The ocular symptoms are rather characteristic and when present should at once suggest the possibility of a beginning lethargic encephalitis.

Both of the cases described below were referred to us on account of the eye symptoms and, as they differed as to distribution, severity and outcome, they will be considered separately.

Case 1. H. McK., male, age 23, farmer, consulted us Feb. 25, 1919, complaining of having spells at which time the eyes seemed to turn up, or as he explained, drew back into his head. His vision was 20/20 in the right eye and 20/30 in the left. He had been in comparative good health with no history of influenza, until about a week before, when, on awaking in the morning he noticed that everything was double. This lasted for three days, after which he thought there was a gradual failing of his vision with a tendency for the eyes to turn up. He was very sleepy, dropping off into an unquiet sleep almost as soon as he would sit down, with marked muscular twitchings and a tendency to talk in his sleep. On being aroused from sleep, he was perfectly rational and could answer questions with perfect intelligence. There was a slight drooping of both upper lids but the eyes could be opened widely on effort. The right pupillary action was very sluggish with no reaction in the left, but there was a history of having had some drops instilled in the eye a few days previous, which might account for this condition. There was some nystagmus but this was not marked. More noticeable on the use of the ophthalmoscope. Aside from this the ocular movements were normal and there was no impairment of the visual fields. The fundus examination was normal. There was a slight exaggeration of the patellar reflexes. As the case evidently belonged to a neurologist, I referred him to Dr. Young, to whom I am indebted for the following notes:

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

"Examination showed marked drowsiness, moderate rigidity of neck, double ptosis, coarse tremor of tongue and extremities, slight weakness of whole left side and a positive left Babinski. When admitted to the hospital he had an axillary temperature of 99.6 and a pulse of 76. Leucocyte count was 6,000, urine negative. Spinal fluid cell count 50 cells per cu. mm. Spinal fluid and blood Wassermann both were negative.

"During the next two weeks his somnolence became more marked. Neck rigidity increased and a pronounced Kernig was present. Weakness left side moderate degree. No disturbance of sensation. Carphologia was present with pronounced tremor of tongue and difficulty of articulation. His face was deeply flushed and he presented a picture suggestive of third week of a severe typhoid. Involuntaries were present. Spinal fluid count at this itme showed 200 cells per cu. mm. Widal and Von Pirquet negative. Double ptosis marked. Pupils responded to light. No strabismus or nystagmus. Movements of eyes apparently equal to right and left with fair degree of excursion.

"After a temporary period of improvement lasting from March 15 to 18, patient developed a rise in temperature and pulse to temperature 104 degrees, pulse 110-140, increased stupor and tremor, severe decubitus, was unable to take food and finally died with symptoms of circulatory failure April 12.

Dr. Eggers did a post-mortem two hours after the patient's death and has kindly given me the following notes:

"Marked congestion of cerebral vessels about the basal ganglia, medulla and pons. Decided congestion of ependyma with congestion and petechial hemorrhages of the dentate nucleus. There was increased pericardial fluid with pneumonia in both lungs. The liver showed fatty degeneration. Marked congestion of omentum, mesentery, and intestinal walls with petechial hemorrhages in the mucosa of the colon and ileum."

Case 2. F. E., male, age 31, school teacher, was referred to us March 17th, complaining of a drooping of the lids and double vision. He was a well built, healthy looking man and gave a history of first noticing double vision some two weeks previously. The following day there was a pronounced drooping of the lids which continued to increase until the eyes were completely closed for three days and then gradually began to improve. Eyes turned out slightly under cover but general movements normal. Right pupil slightly larger than left and there was a slight contraction of his left visual field. There was no nystagmus at the time of examination, but a slight vertical tremor was noticed later, and the ophthalmoscopic examination of the fundus was normal. Patient has been very sleepy during the day since the condition came on with tendency to spasmodic jerking of the muscles. Did not complain especially of headache or nausea. As this case was undoubtedly of the same character as the first, I referred him to Dr. Young, who reports, in addition to the above:

"A left facial weakness of lower motor neurone type which later increased to an almost complete paralysis. Cranial nerves otherwise intact. No motor or sensory disturbance elsewhere in the body. Examination of the blood and spinal fluid was negative to Wassermann test. Spinal fluid count was 12 per cu. mm. Proteid not increased. Leucocyte count 19,000. Pulse 96, temperature 99.

"Following this admission to the hospital his drowsiness disappeared but his dizziness continued for some three weeks. His temperature remained persistently about 99.4 degrees with a pulse that ranged from 82 to 110. He showed no further symptoms of motor or sensory involvement and was constantly asking to get up. He was kept in bed until his dizziness and nystagmus had disappeared and his facial paralysis had practically cleared up. He was allowed to go home April 14 with instructions not to resume work for three months."

Although this condition has been regarded as a sequella of influenza, a definite history of this disease is not always found, but in the following case, which was referred to us by Dr. J. M. Aikin for a report on the ocular condition, the sequence was rather direct.

S. L., male, age 17, referred to us Feb. 7, 1919, by Dr. J. M. Aikin, gave a history of having had a moderately severe attack of influenza some two months previous to the onset of the present symptoms. The boy was away from home at school. The father got a letter from him dated Feb. 1st, stating that he was ill, and furthermore noticed that his writing was "shaky and irregular" so he had him came home at once. The patient first noticed a blurring of vision on the morning of Feb. 1st. When we examined him, we found him to have vision of 20/15 in each eye with correction. His eyes turned out slightly under cover, with nystagmus on looking up or down, in or out. Pupillary reaction was normal. Muscle movements were somewhat restricted on looking up. He is drowsy, speech tremulous, very nervous when sleeping, muscular twitching and talks some while sleeping. Never asks for anything. Eats and drinks what is given him without question. Too sleepy to have fields taken. Examination of fields on Feb. 17 showed them to be practically normal with a ring scotoma in the right eye and a small scotoma in the left. He went home on Feb. 17 much improved so far as his symptoms were concerned.

Although in the last case quoted, the connection with influenza seems to be more or less direct, in a great many cases, the etiology is very uncertain. Early cases, 1917 and 1918, were thought to be manifestations of botulism, or at least secondary to alimentary intoxication, but the absence of the characteristic organism, and in many cases, freedom from intestinal symptoms, seems to rule out this theory. As some of the features of the disease are suggestive of poliomyelitis, Dr. A. S. James (British Medical Journal, 1-11-19) made a careful investigation of 338 reports, 126 of which presented the symptom complex of lethargic encephalitis, and he came to the general conclusion "from all evidences available that the disease is not a form of acute poliomyelitis." This opinion has been concurred in by investigators in this country, but so far there seems to be no definite agreement as to the direct cause of the disease.

The severity and diagnostic importance of the ocular symptoms vary both as to groups of cases and localities. In some instances they are so pronounced that the condition was known locally as toxic ophthalmoplegia, while in some rare cases they have not been observed at all. Morax (British Journal of Oph. Vol. 2, Page 529) commenting on the two cases of Claude and Santon in which ocular symptoms were wholly absent, questions the propriety of classifying them as true cases of lethargic encephalitis. Of the cases that came under my observation, in the first there was double vision, sensation of the eyes turning upwards, ptosis, irregular dilation of the pupils and slight nystagmus. The field of vision and intra-ocular findings were practically normal. In case two, the double vision was the first symptom noticed, this followed by complete ptosis, slight muscular unbalance and pupillary irregularity. Intraocular examination normal.

In four cases reported by Kennedy (Medical Record, 4-19-19) the first complained of "lagging of the left eye lid and inability to read." Later there were paretic jerkings on conjugate deviation in all directions." Vertical movements were limited, pupils sluggish with evident ptosis of left upper lid. Case two showed ptosis, sluggish pupils, defective ocular movements and paretic jerkings on looking to either side. In the third case the pupils were sluggish and irregular, "conjugate movements upward were limited and all downward movements lost," and in the fourth case there was a loss of convergence of all vertical movements with marked reduction of pupillary reaction. In the above cases the intra-ocular findings were normal.

Pother (Journal A. M. A., Vol. 72, p 715) reports eight cases in which six showed diplopia, one nystagmus, with some engorgement of the retinal vessels in two. In one case, there was bilateral involvement of the third, sixth, ninth and twelfth cranial nerves, while the diplopia in two cases was due to disturbance of the sixth. It is of interest that in two cases in which ocular symptoms were absent, the other characteristics of lethargic encephalitis were not at all marked.

Many other cases are given in the literature but this is sufficient to emphasize the importance of at least eliminating the possibility of lethargic encephalitis in the presence of unexplained diplopia, ptosis or irregular pupillary reaction, and when these symptoms are associated with drowsiness, headache, muscular weakness, vertigo and mental hebetude, the diagnosis is practically complete.

Discussions.

Dr. H. E. Eggers, Omaha.—It is a rather peculiar thing that there has been almost nothing reported on the general pathology of this disease. There are probably two reasons for this. First, there is nothing strikingly definite in the autopsy findings aside from those of the brain. In the second place, in outbreaks preceding the one just over the mortality rate was so low as to permit few cases coming to autopsy. The general pathology such as it is, of the cases examined by myself has been reported in Dr. Patton's paper.

As regards the special pathology we find certain very distinctive changes in the brain. These have been made the subject of a number of reports and in general the findings in two cases, in one of which I had the opportunity for complete, and in the other for partial, examination are in accordance with these reports.

First of all the brain is removed only with considerable difficulty. It is exceedingly edematous and is apt to be torn in the hands even with careful manipulation.

Second, there is congestion and hemorrhage around the base of the brain, and inflammation characterized by marked perivascular inflammation with lymphocytes. Also there is frequently capillary oozing, sometimes not visible to the naked eye and in addition a certain amount of nerve cell degeneration. These changes are most marked in the neighborhood of the basal ganglia, and also occur altho as a rule to a much less degree, in the cerebellum, pons and medulla.

The findings are strikingly like those of acute anterior poliomyelitis but the nerve degeneration in lethargic encephalitis is, as a rule, much less marked.

As regards the pathology of the ocular changes spoken of by Dr. Patton we cannot account for them definitely on the basis of the lesions described. However, the third and sixth nerves take their origin from the general neighborhood of the pons and it is possible that the symptoms are the result of lesions in this neighborhood.

I would prefer that Dr. Young, if he is present, discuss this phase of the subject.

As regards the etiology of the disease from its resemblance particularly to acute anterior poliomyelitis, the infectious character of which there is no reason to doubt we infer that this also is an infection. But there is every reason for believing that it is a disease distinct from poliomyelitis. In the first place, lethargic encephalitis is a disease of cold, poliomyelitis of hot, weather. Secondly, as far as my knowledge goes there has never been a case of lethargic encephalitis reported with lesions in the spinal cord. Thirdly, in contrast to the positive results obtained with animal inoculation in acute poliomyelitis, negative findings are almost uniformly reported in lethargic encephalitis. If it is an infection, what is it? The only clue we have is the fact that following every epidemic of influenza of which we have any definite record, beginning in 1718 and up to 1890, cases corresponding to lethargic encephalitis have been reported so that apparently it is a disease associated with influenza, and as far as I know, it does not occur except after influenza epidemics. Just what this association to influenza is we cannot state. There are at least three possibilities: first, it may be that the same infectious element which is concerned in influenza—and even as to this we are still in the dark—is the causative factor. Second, it might conceivably be due to a toxemia following influenza. Third, it may be an independent infection to which influenza predisposes.

There are a number of reasons for believing in the first hypothesis. For instance, there have been a number of cases reported and one of ours comes in this category in which there was no preceding history of influenza, although occurring following an outbreak of that disease. Second, the fact that the disease always follows influenza epidemics would support this view. And if we may argue from one case, the autopsy has certain findings characteristic of influenzal infection, particularly the petechial hemorrhages into the intestine. This is about as far as we can at present say anything definite as to the etiology.

Dr. John B. Potts.—I saw these cases when they came in the office, but I have nothing to add to the paper and discussion. He practically covered every detail and symptom of the case so far as we could see. I examined the sinuses and went over the case to see if there might be an infection that was a hang-over in influenza from the sinus, but found nothing there.

Dr. W. H. Mick.—I should like to ask Dr. Patton a question. We had in the army quite a number of similar cases, two of which come directly to my mind because in our own staff—one a medical officer, and the other, one of the nurses. These cases were followed by influenza and were diagnosed as meningitis after a spinal puncture. Unfortunately of the cases that passed through our hospital, this nurse and medical officer died. Some of the other cases died, but they were autopsied at some other hospital. Is there any relation between the two? Are some of the cases incorrectly diagnosed as meningitis?

Dr. I. S. Cutter, Omaha.—I had on my service at one of the army hospitals a case of this type. It was brought in with a diagnosis of meningitis. The case had been held about eight days. The only symptoms were drowsiness, marked double ptosis, double vision, some dizziness; but no vomiting. The first spinal puncture was under no pressure and only 4 cc.'s and normal cell count. I did a second spinal puncture about eight hours later, because I was so puzzled by the first cell count and the symptoms. I obtained 40 cc.'s, the cells all lymphocytes. A third spinal puncture was done at an interval of eight hours, and 75 cc.'s of fluid drained under heavy pressure, and again all cells were lymphocytes. The most characteristic symptoms were the marked ptosis—almost a tonic ptosis and the deep drowsiness. The patient remained in this lethargic condition for about sixteen or seventeen days.

On account of the supposed enormous brain edema we used large quantities of alkali, and in that way produced a very marked diuresis.

The therapeutic lumbar punctures were repeated at daily intervals and diuresis maintained. After each lumbar puncture the patient was noticeably brighter. After I left I had a letter stating that the case had wholly recovered.

Col. J. M. Banister.—I am glad to see Dr. Patton has taken the title he has for this condition. We hear it so often spoken of as "sleeping sickness," and that term is very unfortunate, because we have a very different condition that has been known for a number of years, while the pathology was still unknown, in which the term "sleeping sickness" was used. This disease is trypanosomiasis, due to infection by the trypanosoma gambiensis through the instrumentality of the tsetse fly of Africa, the terminal stage being "sleeping sickness."

I was interested in Dr. Eggers' remarks upon pathology, because in genuine sleeping sickness is found exactly the same microscopical appearance that the doctor refers to. But a dissimilarity between the two exists in this: the terminal stage of trypanosomiasis or sleeping sickness, is invariably fatal. There never has been a case of definitely established sleeping sickness that recovered, whereas in this disease we find a number of recoveries. The interesting part to us is the similarity in the cellular infiltration of the perivascular lymp spaces.

Dr. Patton.—It would seem from clinical reports and from the literature that cases which do not show rather definite ocular findings are at least under suspicion so far as their being true cases of lethargic encephalitis is concerned.

The cases that I have reported were referred to us for the treatment of what was supposed to be purely ocular conditions. Dr. Cutter's cases were of this type although they showed some rather unusual spinal cord changes and the outcome was very gratifying, no doubt due to the treatment instituted as it is entirely possible that the relief of the intra-spinal pressure had a marked influence in the favorable outcome of the cases.

The case Dr. Aikin referred to us showed some other interesting features which I hoped he might be present to bring out. You all recall that the first cases reported in England were supposed to be due to some intestinal infection and were treated on that basis. This case of Dr. Aikin's, although presenting a clinical picture of lethargic encephalitis and also closely following an attack of influenza, responded promptly to heavy doses of calomel, while the other cases we reported were not particularly affected by this treatment. His case was stupid and did not respond to stimulation, but on clearing out the intestinal tract would brighten up at once, sinking back into the stuporous condition with the recurrence of the intestinal stasis. In other words, the intestinal factor was the predominating characteristic in the case.

As the mortality of this condition is rather high, ranging from thirty to sixty percent, we will be doing our patients a service if we keep on the lookout for the early symptoms and prepare at least to give the patient a correct prognosis.

Management of Mastoids in Army Hospitals.*

John B. Potts, M. D., Omaha.

The actual management and treatment of the diseases of the ear in army practice are in fact very similar to that in civil life but there are a number of factors in the environment of each that render the management somewhat different. In private practice the patient and the relatives must all be taken into your confidence more or less and as it were, instructed in the treatment to be carried out or the necessity of an operation, if the latter be required. Many external forces must be considered, such as the financial condition of the patient, the necessity for him to continue at his work in order to support those dependent upon him, etc.

The success of the physician often depends quite as much upon his ability to handle the relatives and overcome the advice of interested friends as the management of the case. His responsibilities are not so much a matter of law or paper reports as they are his professional reputation and his continued good standing with the patient, relatives and their friends in the community. In the army all these conditions are considerably altered. The welfare of the patient remains the same. However, he is consulted but slightly, and the relatives not at all. The matter of treatment is provided for and there is no necessity of considering his finances. The one consideration that Uncle Sam requires is to return the soldier to active duty fit for combat in as short a time as possible. In order that this may be done, he endeavors to furnish everything necessary for the care of the patient as it is possible to do under the circumstances. Your responsibility is to your commanding officer, and failure to properly execute your work may mean anything from a reprimand to a court-martial.

My experience was all in a base hospital and my observations as given in this paper must necessarily be from this work. In so far as possible, it was the custom in the hospital to concentrate all the diseases of a similar nature in the same ward. This rendered the work much more satisfactory and easy to care for. Of course there were many cases such as those coincident with or secondary to acute infectious diseases and seriously wounded which could not be moved. The virulence of the germs varied greatly during the different epidemics and in the different camps. During the months of January, February and March, following the epidemic of measles and mumps at Camp Shelby, Mississippi, we had a very virulent infection. The onset of the disease was usually at the beginning of convalescence of one of the former and was characterized by sudden onset of very acute pain, bulging and redness of the membrana tympani followed in a few hours by acute tenderness over the mastoid. Although paracentesis was done early, a large percentage of these cases came to operation, many of them within forty-eight to seventy-two hours from the time of the onset of the disease. In a few cases from one cause or another, this early operation was not done and in these the percentage of secondary complications was high, a general septicemia being the most common, although we had several cases each of meningitis and thrombosis of the lateral sinus. On operation the mastoid bone was found to be necrotic, the cells filled with a sero-purulent fluid and very extensively involved. The germ most frequently encountered was the streptococcus viridans.

Captain Fowler of New York was chief of the service at this time, and we followed the technique of sewing the wound up at once with a gauze drain introduced at the lower angle of the incision. Some of these wounds healed readily but in many, the sutures had to be removed, either in part or completely. In this hospital our work was largely confined to the treatment of acute otitis media and mastoiditis.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

In France, the University of Nebraska Red Cross Base Hospital No. 49, to which I was attached, was ordered to Allerey. At this point collapsible wooden barracks had been erected for ten base hospitals of one thousand beds each with an emergency extension in tents for each hospital of a thousand additional beds. We arrived there in time to equip our hospital and receive patients from the first American drive at Chateau-Thierry. On the evening of our arrival, Col. McKernon, consultant for ear, nose and throat, for the American Army of France, visited our center and appointed me consultant of this work for the center. Shortly after this Col. Ford, commanding officer of the center, ordered all ear, nose and throat cases, concentrated, so far as possible, in Base Hospital 49 and assigned Lieutenants Whalen, Base Hospital No. 70, McCarthy, Base Hospital No. 26, and later Edington to assist in the work. This plan of concentration was carried out so far as possible. Naturally there were cases in our center which developed ear or other sinus complications, and were too ill to be moved. These were taken care of by myself or one of my assistants wherever they happened to be except in Base Hospital No. 56, which was a contagious hospital, and Evacuation Hospital No. 17, functioning as a base hospital which was too far from No. 49 to conveniently send its cases there. Major Coates was in charge of the department in Base Hospital No. 56, and Lieutenant Smith in Evacuation Hospital No. 17.

We established a clinic in Base Hospital No. 49, which cared for all ambulatory cases in the center including the convalescent camp of four to seven thousand men. This clinic we attempted to run on scientific lines so far as possible and it functioned more largely as a diagnostic center than a spray clinic. Naturally there were a very large number of cases to be taken care of and our aim was to make a careful diagnosis which was returned with the patient to the officer sending him to the clinic, with full instructions as to the treatment, or a recommendation that the patient be transferred to Base Hospital No. 49, if his condition was such that he required such treatment as could not be rendered by his ward surgeon. Many of the cases seen in this clinic were referred there for examination for classification. All cases before being evacuated from a hospital had to be classified into first class A; e. g., those capable of combat duty; B., those expected to be class A in a short time; C., those for duty other than combat; D., those totally incapacitated and to be sent back to the U. S. A. This careful detailed report, sent with each patient, seemed to be very satisfactory to the officers referring the patients.

We had in addition to the usual ear diseases a large number of cases of shell shock, war neurosis, and concussion deafness. Contrary to the usual idea, however, there were comparatively few cases of malingerers—on the contrary it was much more common to find a patient fudging the other way that he might make sure that he would be sent back to the front and join his regiment.

The injuries of the ear were principally ruptured membrana tympani from high explosives, cuts and tears of the pinna, and penetrating wounds through the external auditory canal and mastoid bone. All cases of wounds were sent to the laboratory for roentograms. The injuries of the cartilage of the pinna were difficult to heal, and after trying various other things, I found they yielded most readily to an alcohol dressing. A Carrel-Dakin tube was placed in the wound and covered by small gauze dressing, which in turn was entirely covered by rubber or oiled silk. The alcohol was then introduced through the tube every two hours. When treated in this matter, these wounds healed very promptly and with no atrophy of the cartilage. Every case of penetrating wound of the mastoid seen by us was infected and required mastoidectomy and removal of the foreign body. In the treatment of operative mastoids, we developed a technique using Carrel-Dakin's solution. At the completion of the operation two tubes were introduced into the cavity, one from the upper angle of the incision extending down to the tip of the mastoid and the other from the lower angle of the incision extending up to the antrum. The wound was then closed entirely, the free ends of the tube brought forward and upward to a convenient point and fastened by adhesive tape. A small dressing was placed over the region of the mastoid so as to compress the soft tissues into the cavity and a large Carrel-Dakin dressing covering the whole region placed over this. Irrigations with Carrel-Dakin's solution were given every two hours, a considerable amount of the solution being used so as to insure thorough cleansing of the wound. This not only sterilized the mastoid cavity but the solution passing through the antrum into the middle ear and out through the external auditory meatus sterilized the middle ear. In a series of fifty cases the average time to render the wound sterile so that the tubes could be removed was nine days. The advantages of this mode of treatment are: 1st, the wound can be completely closed at operation; 2nd, there is no danger of extension from retention of pus; 3rd, the middle ear is sterilized; 4th, the post-operative dressing is simplified; 5th, the convalescence is on an average reduced to two weeks; 6th, the scar is reduced to a minimum, no depression of the bone being left.

Discussion.

Dr. W. P. Wherry, Omaha.—I am in a peculiar position in as much as I have never had the opportunity of doing as Dr. Potts has recommended; but it has been my lot to see some of his cases and they have been seemingly doing remarkably well. His thought is a new one, and personally, I am going to give it the "once over" and see. I am for him.

Dr. S. G. Zemer, Lincoln.—I did not have the pleasure of serving overseas as I was retained in the Department of Head Surgery at Camp Taylor. However, our experience with virulent mastoid infections was extensive, numbering over three hundred cases. In the spring of 1918 the first series developed and the predominating organism was the streptococcus hemolyticus. These followed an epidemic of pneumonia and measles. In the fall, following influenza, pneumonia and measles was the last series and again we had the streptococcus hemolyticus as the predominating organism only more virulent. The cases would begin with slight headache and very little complaint of pain in the ear. Examination revealed a reddened drum with frequent hemorrhagic areas sometimes extending externally along the superior wall of the meatus. Culture from an opened lesion showed Strep. Hemo. Complications were due to the fact that at first we waited for very definite symptoms before operating. After this early experience we X-rayed every case complaining of lateral headache. If culture showed Strep. Hemo. or the X-ray findings showed a necrosis of the slightest degree in the mastoid region, we operated, regardless of any other symptoms. Rarely was the period over three days from the first complaint and invariably we found a necrotic mastoid. We had a mortality of but 6½ per cent, counting the early cases where we waited too long before operating.

Our treatment did not vary so much from Dr. Potts' except in the immediate dressing. We tried the open method, the paste, Carrel-Dakin as an irrigating solution in daily dressings, but finally used as routine the following: Complete mastoidectomy, simple or plain gauze wick with sutured wound allowing drainage below. Daily dressing and irrigation with saline in purulent stage of a few bad cases. We had very little deformity, no case recovering was in hospital over thirty days and few complications due to local conditions after the early cases.

We shall be glad to try Dr. Pott's method but do think our results at Taylor were as good as we were dealing with a most virulent infection.

Dr. Frank S. Owen, Omaha.—The extremely early mastoid operation (three or four days in many instances after the first signs of ear trouble) that Dr. Potts and one of the speakers found necessary in camp hospitals should in no way be held as a proper procedure in civilian practice. They in one army camp found the streptococcus viridans and in the other the streptococcus hemolyticus the prevailing micro-organism. In civilian practice these virulent germs are seldom met with and certainly so early a mastoid operation should be and is rarely demanded. I mention this as a warning against applying the radical means found necessary in the extremely virulent ear infection of army camps to the less virulent infections of civilian life.

Regarding Dr. Potts' management of the mastoid wound, I have been privileged to see some of his cases and the short convalescence I see in all of them, I can heartily commend his method. However, it seems to me there are many disadvantages in carrying out the details of the method that must be taken into consideration. First we must have the Carrel-Dakin solution properly prepared. The preparation of this solution is so intricate it can be in the hands of only a few of the favored. No confidence can be placed in the powder sold in the market for making the solution. Secondly, the frequent irrigations demanded night and day will be a distinct disadvantage.

The method he has devised for drainage and irrigation it seems to me is excellent and if we have not the proper Carrel-Dakin solution on hand there is no reason why normal salt or some other simple solution cannot be used instead, perhaps with equal advantage.

Dr. James C. Tucker, Long Pine.—I was in the nose, throat and ear department of American Red Cross Military Hospital No. 1 for a period of fifteen months. Our treatment of mastoids was rather varied. I first went into this work in the fall of 1917. At this time all our patients were French soldiers and the mastoids were the same type as usually met in civil life except that for the most part they followed an infection of the middle ear following a percussion perforation of the tympanum from shell fire and explosion. Our treatment was rather conservative with these cases and we did very little operating. Most of the infections were caused by the staphylococcus. During the summer, fall and winter of 1918 we had a very different type of cases following the Influenza epidemic. The infection was much more virulent and more operative interference was indicated. The majority of these cases were caused by the streptococci and the more virulent strains of these were the streptococcus hemolyticus and viridans. We used the same treatment Dr. Potts has described in a number of these cases with a very slight modification in the technique. The tube used was perforated in the center for a distance of about three centimeters with twenty or thirty very small perforations. A string was tied tightly through the middle of the perforations and the same tube was used for the inlet and the overflow of the Dakin solution. We left the wounds wide open for the purpose of inspection at the time the dressings were changed, which I think is not a bad idea as the healing process can be inspected carefully and some idea gained of the progress of the case. As soon as the more virulent infection has cleared up the wound can be readily closed by the use of a little novocaine. Our conclusions were that the Carrel-Dakin treatment has a field of usefulness in the acute suppurative type of mastoiditis. I really think our cases cleared up quicker under this treatment than when dressed in the ordinary way. To me it seems as logical to apply this solution in the treatment of a mastoid wound as in any other infected wound.

During the month of March, this year, I had the pleasure of working with Dr. E. J. Whalen of Hartford, Conn., who was Dr. Potts' assistant at Base Hospital No. 49 during several months. We were using the Carrel-Dakin treatment as described by Dr. Potts with very gratifying results. After the virulent infection in the wound is reduced Dichloramine T makes a very satisfactory dressing. It is a preparation with oil which liberates free chlorine and is a compound which has been perfected by Dr. Lee of the Pennsylvania Hospital. In principal it depends upon the liberation of free chlorine exactly the same as the Carrel-Dakin solution.

Comparing the use of Carrel-Dakin solution in acutely infected mastoids with that of infected wounds in other parts of the body, I think one will find the same field of usefulness and get the same good results.

During the winter of 1917-18 I had considerable time to spend in the clinic of Dr. Lubet-Barbon at Paris, who is a very widely known ear specialist and conducts a very large clinic. I was impressed with the simplicity of their technique in mastoid work. They left all their operative wounds entirely open and used as a dressing simply a light gauze mesh, not a pack. No sutures were used until the wound was entirely free from pus. They performed the majority of their mastoid operations under novocaine anaesthesia and were very clever in this work. I also observed the same thing in the clinic of Dr. E. Escat at Toulouse, where I had the good fortune to spend the month of April this year.

During the summer of 1918 we served as a casualty clearing station most of the time and handled a number of cases of gunshot wounds in the auriculo-mastoid region followed by paralysis, either partial or complete, of the seventh nerve. It was surprising how many of the supposedly complete paralyses cleared up after a few weeks. We were searching for a few cases in which we could try a suture of the seventh nerve but were never fortunate enough to be able to locate both ends of the nerve in the cases in which it had been divided.

Dr. Potts: I didn't see very many sinus thromboses. We had one at Camp Selby. He had a coincident meningitis, and died. I had only one in France. The infection was a staphlycoccic and pneumococcic infection. I did a simple ligature of the jugular vein, because the infection was not hemolytic streptococcus. I heard of a number of other cases with sinus thromboses in which they did the radical operation, dissecting out the jugular vein.

As to when to do the early operation and when you can wait: In camps in this country the infection varied. If you had the viridans, and did not operate early you had a large percentage of accidents. In France most of the cases were mastoids following ruptured ear drums or exposure in the trenches in the rain, and very few of them were the type of case I saw in camp here. So that over there I was able to wait several days. A good many of those ears cleared up without operation. We tried to do that in Selby, but that was where we got into trouble; so that evidently the whole thing depends upon the concentration of the people you are dealing with, and on the type of infection you have, especially if it is following pneumonia, measles, or mumps.

In regard to the method we used on the mastoids to close them: I simply report this treatment for what it is worth, and not to supersede the methods with which different operators are familiar. We tried it and it was a success. If you are not satisfied with your old technique, try this and see how you like it.

In regard to the closure of wounds with the wick drain, it works very nicely. I think you will agree with me there are certain factors in the Carrel-Dakin treatment that will give you a little easier feeling when you go to bed at night. In closing with the wick drain you are not sure but what there is more or less retention of pus. If you have the Carrel-Dakin tubes and a nurse you can depend upon, you do not need to worry for fear you are going to get an extension. I used the same treatment where I had an exposed sinus. If we had to take the foreign body out so that the brain was exposed, we used the same treatment, and I knew the wound was kept cleaner than if it had been packed with gauze. If you clean it out every two hours and instruct your nurse to use plenty of solution, you are going to have the cavity clean, and it also clears out the middle ear and you get it sterile in a short time.

Get the pure guttapercha tubing of about one-eighth inch and tie close to the end with a silk thread, with a rubber punch like the dentists use punch a number of little holes, so that on irrigation you get the effect of a spray.

The suggestion in regard to having the Carrel-Dakin solution made is very important. I think it would be well to have some druggist in the town make it so that it will be absolutely correct. I have heard of other solutions that are reported to be better than the Carrel-Dakin. This won't change the method of treatment. It will simply change the solution.

In regard to Dr. Tucker's remarks as to leaving the wound open, it works very well; but if you do it the other way, what is the use?

I have done some mastoids under local anesthesia. If you have a man with pneumonia or a gas case, you don't dare give him an anesthetic. It usually works very well. (Applause).

Army Roentgen Observations of Chest Conditions.*

W. H. Mick, B. Sc., M. D., Omaha.

The Army offered the Consulting Roentgenologist an opportunity of comparing large numbers of radiographic shadows with the operating and autopsy room. The soldier had practically all pathological conditions found in civil life, with the addition of those peculiar to active modern warfare. Many of us who had had an opportunity of doing roentgen work in a health resort, felt that we had a fairly good civil chest experience, and this was true as far as active chronic chest conditions were concerned. However, many of these same conditions found their way into the army, which proves that some of the most skilled examiners are subject to error; or that the rank and file of the medical profession is unable to detect certain conditions by other methods. The writer does not wish to be understood to say that the X-Ray is the only method of locating a pathological condition of the chest, nor does he wish to be understood to criticise the shortcomings of any good and valuable method, which discloses the presence of an abnormal physical condition. He does claim that the X-Ray is a valuable supplement to other recognized methods.

Roentgen observations are divided under two headings. The first is "Roentgen Findings," and the second "Roentgen Interpretations"; and each report from the Roentgen Laboratory should be so divided. The findings in the chest should be classified according to location of the abnormal shadows and the anatomical structure in which these changes have taken place. The size and shape come under this heading. The location and the character of the density are a part of the second condition named. In the chest the changes are either calcific, fibrous, exudative or cavernous, and in passing an opinion on a condition in the chest, the interpreter must be conversant with the changes in the heart and blood vessels due to a cardiac lesion as well as a pulmonary lesion. A well developed cardiac lesion requires more careful radiographic procedure than one in the lung. For passing on minute pathology one or more plates should be taken, preferably two stereoscopic plates for lung conditions. These should be taken by perpendicular shift with the long axis of the body. Beyond question the vast majority of pulmonary conditions can be clearly demonstrated on a single plate. While for cardiac conditions, one chest plate, one plate made in the first oblique, and another made in the second oblique position are equally necessary. The writer does not wish to be understood to say that screen examination for chest conditions should be ignored.

Practically every foreign body can be demonstrated and localized by the shadow shift on a screen more accurately than it can by plate. The measurement must be taken both from the anterior chest wall and also from the posterior chest wall. A foreign body located in the lung can be easily determined by its motion with respiration. Hemorrhage and collapsed lung, whether the hemorrhage is active, can quickly and reliably be ascertained by screen examination. For localization of foreign bodies, any of the triangulation methods are reliable if the position of the patient is the same. The Strohl and 26½ Degree Method are in my judgment the most preferable; however, in certain cases the Close-Point method is all that is necessary, where the foreign body has not entered the lung or has passed through it. In addition to giving the measurements both from the mark on the anterior chest wall or a mark placed on the posterior wall, the anatomical structure in which the foreign body is lodged is of great value to the surgeon.

The localization of foreign bodies does not necessarily allude to those fired by a gun, nor does it allude all told to metallic foreign bodies. Foreign bodies which in themselves may not be demonstrable by the X-Ray often cause local consolidation in a bronchus, often chronic bronchitis or pulmonary abscess. X-Ray examination in these cases will differentiate and demonstrate certain metallic foreign bodies or localize the pathological condition in both classes of cases, giving the surgeon the exact location where the foreign body or pathological process is located.

Poisonous gases affect the lungs and also the heart. The follow-up on those cases that recovered, from a clinical as well as from a roentgen standpoint, will be very interesting. Very early these patients exhibited a change in the roentgen shadow of the heart. This roentgen shadow like the pulmonary shadow, was one peculiar to itself. In fact, the writer knows there is no heart shadow from any pathological process which any way compares with the roentgen outline shortly after gas inhalation. In my experience phosgene gas causes an enlargement of both the base and apex of the heart, allowing the central portion to remain about normal in size. This is so marked that in certain cases about two weeks after inhalation of this gas, it assumes a shape that is peculiar to itself. In all cases where the heart sizes are to be measured a tube plate distance of twenty-eight inches is sufficient to all practical intent and purpose. The best way to measure the heart is to draw a perpendicular line through the sternum and place over this a plate which has been ruled and then fixed in hypo, so that the line zero lays over the perpendicular line drawn. The distance to the right or the left is then easily read off. Radiographic interpretation of cardiac conditions is a subject which the writer will discuss at length in a future paper. However, in reading plates of the chest it must not be forgotten that cardiac conditions increase certain vascular shadows in the lungs and these in a well read plate will not lead to an error which is so often made by the roentgenologist overlooking the heart conditions and reading these shadows as pulmonary pathology.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Noxious gases inhaled into the lung cause a general density of shadow and from the physical condition of the patient coupled with the shadow, it is practically impossible to mistake it for anything else. Shortly after recovery it is not uncommon to find a very small shadow of fluid in the pleura which is less dense than the ordinary empyema.

It is not an uncommon thing to find in lungs any number of hard white calcified bodies. These are encysted infectious particles that are found in a certain percentage of individuals in the normal walks of life, and can safely be called calcified tubercles. I am sure that these patients are not physically incapacitated for in our Denver experience, we found them in a large percentage of patients who had recovered from pulmonary tuberculosis. And in our army experience, the men exhibiting these conditions were capable of doing a day's work unless there were other reasons which could account for their disability.

It has been stated, and probably quite correctly, that more radiographers err in their shadow interpretations on spinal conditions than any other, and I believe that the percentage of errors while great in the last lumbar vertebra, does not compare with the errors made in the dorsal vertebra. For the Roentgenologist who followed these cases through the autopsy room, and then referred back to his plates, many interesting surprises were in store. There is no question that every minute variation of a shadow of one of the vertebrae or ribs require the most careful study for accurate interpretations.

Men who were passed as physically normal and who clinically exhibited a normal chest, yet are physically unable to do a day's work, and slightly under weight and who at the present time are referred for a radiographic examination of the teeth, will in a certain percentage of cases show a quite extensive walled-off abscess, either an empyema or pulmonary abscess. They are very easily demonstrated by a single plate and from our experience of the patient's physical condition before and after, there is no question but the absorption from the toxic material, walled-off chest infection affects the patient physically. Any number of these came to the writer's notice in the army and these came from the men of the ordinary walks of life. These patients were slightly below par physically. In our lantern slides in this paper we shall exhibit one walled-off pus cavity about the size of a man's fist which showed pneumococcus in the pus and the patient became a physically competent man after draining. This is typical of a number of such cases which came under our observation. Some of them drifted from our view before we could get the follow-up. This man was referred by the Regimental Surgeon for the third time, first being sent to another base hospital, and the second time to a tuberculosis hospital. Each time the internal staff considered that on casual physical examination his chest was normal. When he reached our hospital he was referred to the X-Ray Laboratory for the first time, with a report of "Clinically Normal." Roentgen examination disclosed the pus pocket, which finding was confirmed by aspirating the site of the localized shadow and as a pneumococcus infection by the laboratory. The cavity was drained by the surgeon and the soldier made a good recovery.

Modern surgery gets the credit for having advanced materially in chest surgery. The

Roentgen ray is responsible for this possibility, not only for locating and guiding the surgeon to the correct field of operation, but after the operation for removal of foreign body is complete and the chest wall closed, for observing the air being pumped out of the chest wall when the lung has sufficiently expanded. In this way the pump is stopped before the needle has harmed the lung and still allows the process of creating a vacuum in the pleura to continue until the lung has expanded sufficiently to where it again functionates. While this is only a part of the successful operation, it is the part that has assisted in perfecting modern surgery of the lung.

The Bacillus Influenza in Sinusitis and Meningitis.

Lacy (Jour. Lab. and Clin. Med., November, 1918, No. 2. iv 55) reports case histories and postmortem pathological and bacteriological findings in two cases of influenzal meningitis in infants and the clinical and bacteriological findings in two cases of frontal sinusitis in young men. He concludes: In all cases of meningitis, either mild or severe, of indefinite etiology it is advisable to centrifuge the spinal fluid and culture it on various media, always using blood agar. Observations on this should be made for at least forty-eight hours before a negative report is made. The presence of Gram-negative bacilli in direct smears or on cultures from cerebrospinal fluid or from the accessory sinuses of the respiratory tract should be looked upon as probable bacillus influenzae. This is especially true when long filamentous forms are present. There are probably two types of B. influenzae as suggested by the cases reported here: the one which retains its original short bacillary form indefinitely on artificial media and the other which readily develops filamentous forms after a few days on moist blood agar. Sinus infections with the B. influenzae should have early and adequate drainage to prevent the danger of a complicating meningitis. Note. Since the completion of the above work, Major H. E. Robertson, of the American Expeditionary Force in France, has reported the recovery of B. influenzae from the accessory sinuses of 14 cases at autopsy; 7 times out of 8, cases of influenzal tracheobronchitis; 6 times from patients dead from other infectious diseases; and 2 from men dying of accidental causes. Major Robertson did not go into the cultural characteristics or morphological differences of the bacillus.—(March, 1919, Am. Jr. of the Med. Sciences).

The Medicine He Needed.

The doctor found the patient in what he called a dangerous condition. He gave the wife instructions to take his temperature with the thermometer every hour and report on his next visit.

When he called, the wife met him at the door. "Did you take his temperature?" asked the doctor.

"Our thermometer was broke," replied the lady, "so I put the barometer on his chest. It registered 'very dry' so I gave him a bottle of beer and he went to work."—Exchange.

Dr. Thomas J. Masaryk, prime minister and minister of finance of the Czecho-Slovak republic, signed a declaration of the aims of the democratic union of the mid-European nations. Dr. Massaryk, well known in America, is an ardent advocate of the prohibition policy. Dr. Masaryk says of alcohol, that it has a tendency to dull a man's sense of justice, unfitting him for negotiating with his fellowmen on an equitable basis. One almost wonders if he made this deduction in judging Germany's dealings with his people.

It is worrying over things which never happen which makes business and professional men gnaw their finger nails, bark at their employes, lie awake counting sheep at night and make their children say "Sh-h-h-h. Here comes papa!" Worry puts men in jail, in bankruptcy, in Dutch, in the hospital and in the cemeteries. Can worry and cultivate calm. It pays in dollars and cents. Better business demands the elimination of worry.

$100,000 Left for Study of Surgery on Criminals.

Philadelphia, June 17.—Harvard University is bequeathed $100,000 for the study of methods to reform and cure criminals and mental defectives by surgery, under the will of Dr. J. Ewing Mears of this city.

A new safety match is claimed to be windproof and water proof will be especially useful in modern warfare. It will burn five seconds in the face of a strong wind, and when it goes out it will not start a fire no matter where it is thrown.

THE NEBRASKA STATE MEDICAL JOURNAL

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Inquiries Answered.

In many letters addressed to the Journal office the question is asked, "Does the State Medical Association pay the dues of its members while serving in the Medical Corps of the Army?" An occasional correspondent feels confident their dues should be paid from the general fund of the State Association, or their membership certified as in "good standing" because they were accepted and inducted into Government service. In our 1917 State Medical Association House of Delegates Session, the problem of dealing justly with our fellow physicians whose civil practice must be left to others, elicited much discussion. Would the "stay at home" doctors fall heir to the large business just becoming lucrative for the young man whose financial obligations were in excess of the income his army service would pay; or on returning from the service would his practice be wholly lost to him, were pertinent and proper inquiries. The financial phase was theoretically settled by supporting a resolution adopted by the Richardson County Medical Society. The resolution as endorsed was published in the June 1917 issue of the Journal. Its application was void because provision had not been made to defray the expense necessary in operating the plan. Attention to that omission was officially noted by President Milroy on the editorial columns in the Journal of July, 1917, issue. At no time did our House of Delegates recommend, neither does the County Society, or State Association Constitution and By-Laws, authorize membership "in good standing" unless the petitioner has paid dues as therein stipulated. A small per cent of our secretaries have by orders from their county organizations remitted from their treasury, an amount covering the current dues of their Medical Corps members. Chas. L. Mullins, when President, wrote giving some splendid suggestions supporting the voluntary action by county societies in remitting State Association dues for their members serving in the Medical Corps. His letter was published on the editorial columns in the January, 1919, issue of the Journal.

It would be superfluous to make further explanation of why our Secretary-Treasurer cannot officially certify to the membership "in good standing" of any one whose dues have not been paid as ordered by our county and state association organizations.

Another common, but illegal request we always decline to honor, is the issuing of membership cards until the dues for at least five (5) members have been received in the State Association office. County Constitution, Article 4—Meetings, reads:

> "Regular meetings shall be held at such time and place as may be determined by the Society. Special meetings may be called by the President and shall be called on a written request of five members. A call for a special meeting shall state the object of such meeting, at which no business except that stated in the call shall be transacted."

And Article 5—Officers, reads:

> "The officers of this Society shall consist of a President, Vice President, Secretary, Treasurer, Delegates and Board of three Censors. These officers, except the Delegates and Board of Censors, shall be elected annually. Delegates shall be elected for two years, and in accordance with the constitution and by-laws of the state association. One member of the Board of Censors shall be elected each year to serve for three years, provided that at the first election after the adoption of this constitution one member of the Board shall be elected for one year, one for two, and one for three years."

State Constitution, Article 3, Sections 1, 2 and 3, read:

> "Section 1. Component societies shall consist of those county medical societies which hold charters from this Association.
>
> "Section 2. Counties having five or more eligible physicians shall form county medical societies.
>
> "Section 3. In counties having less than five

eligible physicians, such physicians may join neighboring county socities."

State By-Laws, Chapter 15, County Societies, Sections 13 and 14, read:

"Section 13. At the last regular meeting in the fiscal year preceding the next annual meeting of the State Medical Association each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of the Association, at least ten days before the annual session.

"Section 14. The Secretary of each County Society shall keep a roster of its members and a list of the non-affiliated registered physicians of the county, in which shall be shown the full. name, address, college and date of graduation, date and number of license to practice in this state, and such other information as may be deemed necessary. He shall furnish an official report containing such information upon blanks supplied him for this purpose, to the Secretary of this Association and Councilor of his District on or before January 31st of the proximate year, at the same time the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year."

In anticipation of county society meetings, election of officers and payment of 1920 dues, these suggestions may clarify and facilitate the clerical and financial duties essential to securing and maintaining County and State Association memberships. Membership in a county medical society is the only portal of entry into the State Medical Association membership, and establishes eligibility to a Fellowship in the American Medical Association.

License to Practice Medicine.

The forthcoming Constitutional Convention which assembles in December of this year will afford an opportunity to revise the present and formulate a new Medical Practice Act for the State of Nebraska. There still remain over two months in which the members of the medical profession of the state may impress upon the delegates to the convention the important points to be settled. In this connection it may be of value to consider the medical practice act of Great Britain which licenses its physicians and surgeons and in so doing states to its people in effect that these individuals are adjudged fit by the government to take care of the sick. As an addition to this it states in effect that should anyone employ an individual not so licensed to care for the sick that person does so at his own risk. The law written in that form has a much more deterrent effect upon the employment of unlicensed practitioners than a system of punitive measures which do not call particular attention to the fitness of certain individuals but emphasize punishments to be inflicted, if caught. As a matter of fact we know that such punishments are rarely inflicted and then only after long drawn out legal battles.

At present the medical practice acts of the various states of the Union seem to the layman to savor of class legislation. The medical profession seemingly is endeavoring to prevent certain schools — osteopaths, chiropractors, etc.—from entering into competition with it, and the laity draws the conclusion that this is because of jealousy. The reason for this is that the question of fitness or unfitness based upon an educational standard, has not been emphasized in a convincing manner. This is the prime necessity. If the college from which an individual receives his training maintains a sufficiently high standard to satisfy the authorities that its graduates have sufficient knowledge to care for the human body when diseased, and this is proven by submitting to and passing an examination conducted by duly constituted boards, it makes little or no difference what name the individual chooses to assume or to what school he claims allegiance.

During the past ten years this plan has been carried out by the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges. The results are a matter of history. The Medical Colleges of low standards have gone out of business voluntarily as they have not been able to meet the required standards and the medical profession is putting its own house in order by pressure of opinion and raising of standards. Punitive measures along this line had failed, but the adoption of a different tack accomplished the desired purpose.

This is a good thing to bear in mind in drafting the new medical practice act. If the State of Nebraska will require high standards for medical practice, such standards to be based upon educational requirements and examinations to determine fitness and notify its residents that all others are unlicensed practitioners and subject to the laws as such, it will relieve the situation of any accusation of class legislation and give to the people of the state proper care in a medical way.

Universal Military Training.

Though the war is over many of its lessons from the standpoint of Medical Science remain to be learned. Much was learned of Sanitation during the war and aside from the medical profession those that benefitted mostly were the individual soldiers and through them their friends and neighbors. In other words, the whole people. The army shows the smallest death rate from disease of any similar force in history. This alone is a great achievement. When considered in addition the fact that all the soldiers have been immunized to smallpox and typhoid; have learned by practical experience the lessons of personal hygiene; and the dangers of venereal disease, the economic value of the work of the Medical Department can hardly be overestimated. Opportunity was likewise afforded to study the young manhood of this country and see how it compared with the normal. Unfortunately it did not average up as well as we hoped, but physical and disciplinary training has improved the great majority of the men who entered the service.

Universal military training as proposed in the bill introduced by Senator Chamberlain of Oregon and Congressman Kahn of California will if passed afford the opportunity to continue the work so auspiciously begun during the war.

The Bill provides for a period of 6 months military training for all men of 18 to 19 years of age under the direction of regular and reserve officers. The subsequent service is for periods of two weeks each year for a few years and is thus patterned in a measure after the Swiss system.

Under such a regime it will be possible for the medical profession to keep watch over the young men of the country, instruct them in personal hygiene and general sanitation and after their period of training, send them out better fitted to take up their life work, whatever it may be.

The matter of vocational training, military knowledge, and the hundred and one other things which go to make up the education of the soldier need not be mentioned. The point that the medical profession should grasp is that the great opportunity offered for examination of our young men and their hygienic and sanitary training must not be allowed to pass by. The medical profession should stand as a body back of universal military training—not as a militaristic measure—but from the sanitary side and for the economic gain to the community which that side represents.

Each of us can help by writing his senators and congressman urging the passage of the bill, and each physician in the state should do so.

Announcement.

The next meeting of the Nebraska State Board of Medical Examiners is fixed for November 12, 13 and 14, 1919.

H. J. Lehnhoff, Secretary.

STATE NOTES.

Dr. Leo DeLanney has just returned from the service and resumed practice in Belgrade, Nebraska.

Dr. Wm. N. Anderson has been honorably discharged from the Army, and is again practicing in Omaha.

The Evangelical Lutheran Hospital, Falls City, Nebraska, will be dedicated with appropriate ceremonies, October 1, 1919. The structure is built of brick and the interior will be hard wood finish, and all modern conveniences will be installed.

DEATHS.

Sir James MacKenzie Davidson, M. B., C. M., born in 1857, died April 2, 1919, aged 62. He was a pioneer Roentgenologist. His death will be mourned by many, especially by Roentgenologists. He did much for the advancement of Roentgenology, and merits the credit for most of the original work on localizing foreign bodies. The MacKenzie Davidson Localizer was the first of its kind. His first articles on this subject were published in 1897, two years subsequent to the discovery of the Roentgen Ray. That year he published a paper with a radiograph of a stone in the bladder.

His work on making practical the X-Ray apparatus was perhaps second only to that of the late Dr. Caldwell. In the deaths of Major Caldwell, of New York City, Sir William Crookes, and James MacKenzie Davidson of London, roentgenologists have lost three able advisers. Dr. Davidson was the Dean of active Roentgenologic work, giving it his entire time and attention from its discovery until his death.

Sir William Crookes, chemist and physicist; born in 1832; died in 1919; aged 87. He began his scientific career in 1851. The Crookes tube is one among many of his inventions for the advancement of science. His contributions toward the discovery of Roentgen Ray merits more credit than he ordinarily gets. It was his experiments which led to Roentgen's use of a Barium Platino Cyanide Screen for the detection of the invisible rays that finally resulted in the discovery by Professor Roentgen of the power of these rays to penetrate the human body. Dr. Crookes discovered the element of Thallium, its properties and compounds. His last contribution of practical value was in 1914 the invention of suitable glass to protect the eyes of workmen, working in powerful artificial light. His life from 1851 to his death was devoted to science rather than to making money. He was one of the ablest men of scientific attainment of his day.

Books Received at the Nebraska State Medical Journal Office During August, 1919.

From the C. V. Mosby Company:

Psychiatric-Neurologic Examination Methods—Wimmer Hoisholt.

Materia Medica for Nurses—Muirhead.

Cerebrospinal Fluid—Levinson.

BOOK REVIEWS.

Psychiatric-Neurologic Examination Methods, With Special Reference to the Significance of Signs and Symptoms; by Dr. August Wimmer, Director St. Hans Hospital, Roskilde, near Copenhagen, Denmark; Authorized Translation by Andrew W. Hoisholt, M. D., Medical Superintendent, Napa State Hospital; Professor of Psychiatry, Medical Department, Leland Stanford Junior University, San Francisco, California; Published by C. V. Mosby Company, St. Louis, Mo., 1919.

This author has written an exhaustive compend on the clinical aspect of mental disorders. In it he has rendered excellent service to the student, general practitioner, and specialist. He rightly emphasizes the essential factors to an intelligent conclusion, drawn from all the evidence in the case presented. Inability to elicit and weigh evidence in mental and nervous disorders is commonly admitted. The author has presented the common, obscure, and often unrecognized symptoms helpful that satisfy our conscience, in deciding the diagnosis.

The price of the book is $2.00. It is in the Nebraska State Medical Association Library. J. M. A.

A Treatise on Orthopaedic Surgery by Royal Whitman, M. D., M. R. C. S., Eng., F. A. C. S. A Director of Military Orthopaedic Teaching; Chairman of the Medical Advisory Board of Orthopaedics in New York City; Associate Surgeon to the Hospital for the Ruptured and Crippled; Orthopaedic Surgeon to the Hospital of St. John's Guild; Consulting Orthopaedic Surgeon to St. Agnes' Hospital for Crippled and Atypical Children, White Plains, to the New York Home for Destitute Crippled Children and to the New York State Board of Health; Member of the American Orthopaedic Association; Corresponding Member of the British Orthopaedic Society; Member of the New York Surgical Society, etc. Sixth edition, thoroughly revised. Cloth. Price $7.00 pp. 914 with 767 illustrations. Philadelphia and New York. Lea & Febiger, 1919.

This edition of this already well known work reflects the present tendency to enlarge the scope of orthopedic surgery from the use of brace and plaster in a few diseases the results of which are evident in the muscular and skeletal systems to the larger field of reconstruction of the disabled human body. As stated by the author in his introduction: "Its chief distinction is not, however, in its ill defined and shifting boundaries, nor in the means and methods employed in its practice, but rather in its constant purpose to prevent or to correct deformity and to preserve or to restore function, a purpose that governs treatment from the beginning and to the end." The author has emphasized this purpose and followed it consistently through the book. In places the subject matter is sketchy and appears more like a compend than a treatise. Many new illustrations admirably chosen to illustrate the desired points have been added and fuller discussion of operative methods is made, notably that of the operative treatment of Pott's disease and of paralytic deformities.

The most notable addition to the work is the chapter on Military Orthopaedic surgery which presents a summary of the types of cases properly falling into this classification followed by short discussions of the various types. Of these the preparation of stumps for artificial limbs by kineplastic amputation is discussed briefly and also injuries to nerves and the treatment of the resultant paralysis both by nerve surgery and tendon transplantation. The final discussion summarizes the attitudes of election in which extremities should be immobilized.

On the whole an attempt is made to cover a large subject in a rather small volume. As a reference book to give a cursory view of the subject of Orthopaedic Surgery or for the purpose of aiding the general practitioner in the diagnosis of orthopaedic conditions it will prove of considerable value.

A. J. B.

"Abstracts of War Surgery."—Prepared by the division of surgery, Surgeon General's office. Published by C. V. Mosby Co., St. Louis, Mo. 1918.

The literature emanating from the medical men in this great war has been so voluminous and so diversified in opinions that those attempting to keep up on the reports have been confronted by a stupendous task. This volume of abstracts fills a long felt want and is prepared merely as a "condensed text for ready reference." It has been used at the various camps by instructors on the recommendation of the war department which of itself is ample recommendation. In this volume of 430 pages will be found abstracts from English, French and Italian literature covering the whole subject most thoroughly. The contents are indexed under the following divisions: 1 wound infection and treatment, 2 tetanus, 3 gas gangrene, 4 abdomen, 5 chest, 6 cardiovascular surgery, 7 joints, 8 fractures, 9 burns, 10 anesthesia in warfare, 11 trench foot, 12 foreign bodies, 13 perpheral nerve injuries, 14 jaws and face.

On looking over the subjects just named one can readily pick out subjects of tremendous importance in civil practice and until the more elaborate treatises are published on the various subjects this handy volume is well worth possessing by all medical men.

C. A. ROEDER.

Symptoms of Visceral Disease by Francis Marion Pottenger, A. M., M. D., L. L. D., F. A. C. P. Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Professor of Diseases of the Chest, College of Physicians and Surgeons, Medical Dept., Uni. of Southern California, Los Angeles, California. St. Louis, C. V. Mosby Company, 1919.

A valuable work containing much more than the title implies, being a description of the anatomy and physiology of the vegetative nervous system, a study of the viscerogenic reflexes and a discussion of clinical symptoms and phenomena due to these varied reflexes.

The complex interrelationship of the abdominal and thoracic organs and other parts of the body through the sympathetic and parasympathetic systems is well demonstrated by the author and he endeavors to stimulate the study of functional pathology (reflex) which is so often considered of less weight in clinical diagnosis than laboratory findings of the secretions, excretions, etc. It would seem that close clinical observation in connection with now known vegetative nervous reflexes should establish many facts and symptoms bearing on the diagnosis of visceral pathology. E. Brown.

Omaha Douglas County Medical Society Meeting.

After the Minutes of the previous meeting and the business which came before the Society had been disposed of, Major E. C. Henry was called upon to take charge of the program, which he did and addressed the Society as follows:

Dr. E. C. Henry.

As there will be some four or five speakers we will not take more than ten or fifteen minutes apiece to tell you about the things on the other side. Colonel Merritt will speak later, and I am permitted to say that Colonel Macrae will be here a little later. He is at a Bankers' banquet and can't come now but he has promised to drop in later.

It certainly is good to look into your faces again, men, and there are so many things I would like to say just in a chatty way rather than a strictly scientific way that I hardly know where to begin and where to leave off because I want to say so much and must curtail it here and there.

I know a lot of you men wish you could have been in the service, yet for one reason or another you didn't get to go, and may I tell you just how we feel toward you men? This is the greatest thing that ever happened in your time and mine and the man who did his part has that satisfaction, knowing that he did his part.

I am so often asked "What was it the Americans did that put the final punch in, enabling us to go over the top? Were our men so much braver or did they have ingenuity or what was it?" And I can say, that over there we felt the push of you men back here, and that ought to give you some consolation. It was a great thing to feel that you fellows right here in front of me were backing us up with your good will, and your dollars, and your good wishes, and that was so not only with the medical men, but with the Red Cross, and the general spirit of America. We felt, we men upon the line, that the people back home were backing us. You buttonholed every man, woman and child you came in contact with and talked for the cause, put your dollars with us, and you were with us heart and soul. I want to tell you how much we felt that spirit and that you have had your part in the victory just the same as if you had been Over There.

I want to tell you just a few things in a professional way as to what was done in the Army Game. Army surgery—war surgery—is not the surgery of civil practice and probably the greatest thing that was called to our attention was the Carrel-Dakin solution of which I will speak more a little later. As to whatever may be the result in civil practice here is the proof that it was a failure as a war measure. The order went forth that no operating must be done under any circumstances. We didn't see any clean cases over there. There was pus everywhere and we learned interesting things about infections. But the point I want to make is that the Carrel-Dakin solution was a failure as a war measure. It may be all right in civil practice.

France is one of the old civilized countries. The soil has been cultivated for centuries and it is tremendously infectious so that when the war broke out the infections were simply appalling — something that even the great surgeons had never seen. Gas poison, lock jaw, the most virulent strep. infections you ever saw. Then we had different conditions. We never had had gas attacks before. We had the most curious results in bone fractures. As a result of the high explosives bones would seem to explode. The care of infections and wounds presented clinical conditions the like of which we had never seen, so we learned some extremely interesting things about amputations and about re-amputations.

For example, we learned that germs can become encysted around fractures, around joints, around stumps, and lie there for months apparently perfectly well. Now, if for some mechanical reason we have to amputate it all breaks out again and we have a suppurating stump such as we have never seen in private practice. We didn't know that germs would lie there apparently encysted or gone into the spore stage or what not stages of infection, and we must leave them alone for four to six months or it is all to do over again. In army amputations our night mare was secondary hemorrhages, and it was rather interesting to hear them argue about the cause of secondary hemorrhages. I suppose every doctor knew ninety to ninety-five per cent were due to infections of some kind, but they were arguing over there that the Carrel-Dakin solution was the cause of it. And strange as it may seem we never did learn how to operate to stop secondary hemorrhages. We lost a great many cases.

One thing we did learn which was very interesting, that is if a stump heals, whether arm or leg, if we did a Buck's extension so the ends would not unite hard and fast to the bone it made a much more useful stump when it came to attaching a new limb. The Buck's extension holds the part down and away from the end of the bone and it heals in a much better, nicer way.

Now as to the Carrel-Dakin solution. The Rockefeller Institute has a way they carry out the technic in this. Carrel worked there for years and he is a very powerful influence in that institution. They were impatient with men who didn't believe it the greatest discovery of the times. They believed it was practically infallible and they taught hundreds of the men going into the service the exact technic of using the Carrel-Dakin solution. At Camp Sherman the doctors were just as impatient if you didn't know it was no good at all.

Now it is a disagreeable task to try to present a thing to others which you don't know yourself.

At Camp Sherman the doctors used the solution in empyemas and it was a failure. On the other side in Saveney (ten thousand beds) they were very impatient if you talked the Carrel-Dakin solution as being of any value whatever. Men working up at the front said it was ideal, but in our hospital we saw hundreds of cases that had Carrel-Dakin solution. The order came out that we must do no more operating, but get the patient in the best condition possible and send him home, where they could get away from the mass of infection which we had over there. In civil practice they will tell you if you don't get successful results you don't know how to use it. Possibly true, but I found so many men who didn't know how to use it before I can be sure that if it is the great thing it is claimed to be I shall have to see it successfully used.

I think a great deal of very important matter is coming out in the next two years. It is not yet tabulated. We are not far enough away from the results to know just how much we have learned, especially in lung surgery.

Dr. Henry then introduced Dr. Claude Uren, who spoke on

"Aviation Service"

Dr. Uren:

When the United States went into the world war it was confronted with new problems. Aviation was new, and the surgeon general's office found that there would be problems in aviation which differed somewhat from the usual task of the army surgeon.

The first thing to do was to pick the pilot. The War Department established about sixty-seven different centers throughout the United States (of which Omaha was one), for the examination of men for the aviation service. About fifty thousand men were examined by these various units. Seventy per cent of the applicants successfully passed the examination, thirty per cent were rejected. The requirements, as most of you know, were very strict. Besides the usual physical examination there were added several special tests, special eye test, and a special ear test done with the turning chair. In other words, the air service picked the super-man standard and accepted those men who met with these requirements.

The second step in aviation medicine was the classification of the aviators. There was established at Mineola, L. I., a laboratory for research work. The work at this laboratory was divided into several departments. A department of internal medicine, a department of physiology, a department of ophthalmology, a department of otology, a department of psychiatry, and a department of neurology. In all of these departments experimental work was carried on, and this consisited for the most part with work at low oxygen tension. The first work was done in a low pressure chamber, a large steel tank from which the air could be gradually exhausted by means of a pump. The pressure within this tank could be gradually lowered to the same pressure one would find in an ascent to 35,000 feet. To simplify matters rebreathing tanks were constructed to take the place of the more bulky low pressure tanks and these rebreathers gave the same results. The rebreather is a small tank that can be filled with air. An outlet from this tank leads to the mouthpiece in the mouth of the pilot, who inspires the air from the tank. The expired air goes back into the tank thru another pipe and the CO_2 is removed as the air passes through a cartridge of caustic soda. As you know; the oxygen per cent of air at sea level is twenty per cent and as one ascends from sea level the percentage gradually diminishes. This is relative, not absolute; as it is the oxygen tension that diminishes, but for simplicity we shall speak in terms of percentage.

After much experimental work was done by the various departments a standard run was worked out. The pilot was given three things to do while rebreathing. There was in front of him a board on which were placed two rows of lights. Below these two rows of lights were two rows of buttons, each button corresponding to the light directly above. The pilot held a stylet in his right hand. When a light would come on the pilot touched the corresponding button which lighted still another light at the end of the board. These lights were worked by one of the examiners who lighted them at regular intervals.

At the same time the pilot watches an ampere-meter and keeps the needle at a given mark. This he does by means of a rheostat moved with his right hand.

The third part of the experiment is a motor which the pilot keeps in low speed. He hears the motor speed up and slows it down by means of a switch worked with the foot.

A blood pressure apparatus is attached to the left arm of the pilot and every two minutes a clinician takes his blood pressure. Toward the latter part of the experiment the clinician tests the heart every two minutes. A kymograph on the back of the machine takes a record of the respiration. The oxygen, remaining in the tank after a run, is measured. The average man will run twenty-five to thirty minutes, and will get the oxygen down to between seven and eight per cent, which is equivalent to the oxygen at twenty-eight to thirty thousand feet. When a man makes such a run and his blood pressure, pulse and respiration increase gradually, that is to say he compensates all the way thru the experiment and has no incoordination with the lights, works the motor and ampere-meter until he gets down to seven per cent, he is a class Double A man and given work without limitation. This pilot will take a fast plane and go any height, absolutely without limitation.

On the other hand where a man breaks psychologically or physically at ten per cent his work is limited to fifteen thousand feet and he would probably be used for day bombing.

If he fails at fifteen percent he is limited to eight thousand feet and used for ferrying ships or night bombing.

The eye department carried on experimental work taking the man's stereoscopic vision, color vision, muscle balance, field of vision, near point of accommodation, near point of convergence, retinal sensitivity and examined the fundus under low oxygen tension.

The ear department was trying to establish the turning chair and its value in aviation. Among other things the ear department did was to test out deaf mutes. You know a certain number of deaf mutes have dead labyrinths, that is the vestibular sense as well as the hearing sense. One of the requirements of the pilot is normal labyrinth. The sense of balance is absolutely essential to the aviator in telling his position in space.

Several deaf mutes were tested out in elevators in the Equitable Building in New York. The elevator in a dark shaft could be dropped thirty or forty stories. Normal men were first tested and later the deaf mutes. Perhaps some of you have had the sensation of dropping rapidly thru a dark shaft. When the elevator is dropped suddenly we naturally feel acceleration of motion downward, when slowed up we have the sensation of stopping. When the elevator stops entirely we feel that we are going up, we get a rebound. Deaf mutes could tell when they were dropping suddenly, when they were slowing down, and when they stopped. They did not get the rebound.

Motion is sensed by three things, deep sensibility, semicircular canals, and the eyes.

Tabetics, in whom there is no deep sensibility were tested. The tabetic was not as accurate as the normal individual in telling the motion of the elevator but unlike the deaf mute he got the rebound on the sudden stop.

We next took the deaf mutes up in planes. The pilot was instructed to do certain maneuvers. There was a telephone connection between the pilot and the individual who was being tested and the results of these experiments show that the normal individual really could tell his position in space and detect the different maneuvers better than the deaf mute, but these experiments were rough and unscientific so that no real conclusions should be drawn from them.

It was found that low oxygen tension had no effect on the hearing or vestibular sense. Sudden descent often caused pain in the ear and sometimes a rupture of the ear drum. This depends upon the patency of the eustachian tube.

The psychiatrist and neurologist made personality studies of the pilot.

The third stage of aviation medicine is the care of the flyer. This brought up the question of the so-called Flight Surgeon. Men were sent out to various fields in this country with very little instruction. Men who had been examining units originally and later trained in laboratory work at Mineola were sent out and told to create the position of Flight Surgeon, the idea being to get more closely in touch with the cadet and pilot—be a big brother to him—so he would confide any of his mental or physical troubles to theflight surgeon. This worked out very well. Those of us who went out first soon got to be very companionable with the cadets. We ate with them, slept with them—it wasn't military because they were not officers, but we were able to find out very frequently why a certain cadet was not flying well. The instructor at times would become disgusted with a cadet. He couldn't see why this particular cadet could not learn as well as the one he had instructed before. It often turned out that some of these boys had something weighing on their minds, financial trouble, parental objections, a lot of them being young boys got in love with every girl they saw. This often showed in their flying. The Flight Surgeon took up flying so that he could better understand the conditions under which the cadet and pilot were working, so the Flight Surgeon took instructions along with the cadet. Several Flight Surgeons qualified as pilots.

Later physical directors were established in all the camps in this country. The physical director worked in connection with the Flight Surgeon. Proper kinds of athletics were provided. The cadet flying two or three hours a day and going to classes the rest of the time needed systematic exercises so the physical director put into action proper athletic sport.

Another thing the Flight Surgeon looked after was the food, regulating the hours for eating and the proper kind of food. Down south nearly everybody is cursed with the coca cola habit. One of the first things we took away from the cadet was coca cola. I don't know that coca cola in proper amounts had any bad effect on them but we found them spending too much time in the post exchange filling up on ice cold coca cola. It certainly did them no good.

A laboratory was established at each field to carry on the classification work the same as was done at Mineola. A laboratory in France was not established until April, 1918. The first one established in France was at Issoudun, the largest aviation field in France. There our pilots got their finishing touches before they were sent to the front. A little later one was established at Tours, which is a training school for observers, and one at Clermont-Ferrand which is a training school for bombers. It was the intention to send flight surgeons to every squadron at the front, but unfortunately none ever got there.

Our work in France was very interesting because we came in contact with boys that were flying the same sort of ships that were used at the front. It was further interesting because after the armistice was signed we had a chance to examine many of the aces and pilots from the front, and also several of the French pilots.

Many interesting things came up in our work in France but it would take too long to talk about them tonight. I do want to say one word about the American aviator. Occasionally you will hear that our aviation was a failure. It absolutely was not in so far as our flyers were concerned, although only 842 pilots got across the line, nevertheless, plenty of them were ready to go. Every flying field in France was full of them and the flying schools over here had plenty of pilots to supply the front. There was absolutely the finest type of young men that could be gotten together and their flying was not surpassed by the flyers of any country. To illustrate: At the combat field at Issoudun one of our men combatted with an Englishman who had been at the front three and a half years and our aviator rode the tail of his plane. But this aviator never got to the front because we didn't have enough planes at the front. Many good men were kept back for this reason. I don't think enough credit is given to instructors in this country and in France. The best men were often chosen for instructors. The instructor was taking chances every day, sometimes chances much worse than those who went over the line. They flew with green men who were apt to freeze to the control. Many of them were killed, but they got no D. S. C. or Croix de Guerre. They were wonderful men and worked hard to get to the front but didn't get there because the production end apparently failed. At the front our men used French Spads for the most part which were very good ships but, of course, we did not have enough of them. The Liberty motor was a success but it was put into a body, the D-H-4, which was called a flaming casket. The D-H-4 was not only blind but the gas tank was so exposed to flaming bullets that many of our men came down in flames. These ships were sent out unprotected by scout planes, depending upon their Liberty motor to get them safely back to airdromes, and many of them never came back. Our aviators were outnumbered at Chateau-Thierry, but at St. Mihiel and the Argonne we had supremacy of the air.

Dr. Henry: The next is Captain Dishong on the "Neurology of the War."

G. W. Dishong.

The observation and treatment of nervous and mental diseases in the army was interesting and very instructive, but naturally this branch of the medical service had to do largely with the failures, the poor fellow who broke down under the strain, and I hope nothing I say may be misconstrued as reflecting on them. The American doughboys were wonderful men, wonderful fighters, and I never cease to wonder at their grit and valor.

Two important things stood out and came as a surprise to me. In the first place, that we found nothing new in nervous and mental diseases. That is, there were no new diseases incident to warfare, nothing we had not seen in civil practice; and, second, was the fact that so many men got into the service who were predisposed to nervous and mental diseases.

I was interested in the remark by Dr. Uren that the cadet or aviator who went into the flight filled with emotional conflict or mental unrest could not deliver. That was exactly the thing in shellshock, and the factor back of those cases which broke under the mental and emotional strain.

In the early part of the war a new term was coined, shellshock. Very broad, very descriptive, and at first there were too many cases put into that classification. It included everything—those who broke from neuroses, as well as psychoses, or some form of insanity, and also from exhaustion, or concussion by explosion, all dumped into one basket—shellshock. As the war went on so many cases broke, and as they learned more about the etiology—some cases were purely functional and others were organic—the term shellshock was reserved for cases of neurosis, hysteria, neurasthenia, psychasthenia and anxiety neurosis, and later it was discarded and not used in military classification.

Now, I don't say that all men who broke were necessarily predisposed, and I want to explain later how one can break and not be predisposed. An individual may have a congenitally nervous organization and more particularly an unstable mental condition and go through life happy and contented, but under tremendous strain might break—this underlying instability might then become a soil on which would develop a neurosis or psychosis. Now we must expect that the fellow who is a bit feeble minded or a potential epileptic or the man who was neurotic, or the man inclined to develop insanity, has an underlying instability so that when he tried to adapt himself to the very painful scenes at the front he naturally broke under the strain.

Concussion from explosion is exactly the same thing that can happen when one falls in civil life bumping his head, rendering him unconscious for a few minutes or for a few hours. So it was not uncommon for these fine fellows after having several concussions, having been knocked down several times, after three or four experiences, under constant exertion, a shell would fall near them and explode and they would lie unconscious for several hours. If normal the concussion might be so serious that both ear drums would be ruptured, there would be a peculiar tremor of the extended fingers, a little nystagmus, he would be confused mentally, but the chap would come out of that. Due to the tremendous atmospheric changes he was always sore in every muscle of the body, always sore over the abdomen, tender along the spine. But put him to bed with hot packs for a couple of hours, he would come out in a few days and want to go right back to the front.

The syndrome following exhaustion from exposure or overexertion was also interesting, and would develop in the normal individual. Many of these cases were admitted to the Base Hospital. They gave a history of having been under constant fire for days and nights with constant exertion, with no food, little water, and no sleep. In three or four days they would develop a tremor in the hands, the teeth would chatter, the legs were weak, they had difficulty in thinking, and finally the individual went down in collapse, very often in delirium. If a normal individual, this man, after having food and a warm bath, would usually fall asleep for forty-eight hours. The first words on awakening would be: "Doctor, for God's sake get me back before I lose my organization."

Now take the neurotic, or unstable individual. This is the fellow with mental unrest as his habitual attitude, or consider the fellow who is a bit low mentally and there were many of these in the service. This fellow would always have difficulty in adjusting himself to conditions at the front, and instead of going on to exhaustion or breaking from heavy concussion he would develop shellshock or war neurosis. Most of these shellshock cases measured low in mentality that is, they were mentally about nine or ten years of age, having the mentality of a child of that age, but with perfect physical bodies. Naturally such a man could not adjust himself to the conditions at the front.

The same with the epileptic. The epileptic has a peculiar personality make-up. There is egoism, hypersensitiveness, emotional defects, and difficult adaptation. Naturally this sort of man would develop some sort of defense reaction in the face of overwhelming stress, and he got out of his difficulty by having a convulsion.

It was the same way with the neurotic. A certain amount of underlying instability—when stress became too great he broke. He usually broke before he got to the front, before he got into the actual warfare, usually on the way to the front, and it was the same way with the man who had had previous attacks of insanity. He might get along where the stress was not too severe, but under stress he broke. One chap illustrates this very nicely. I have already told you how men of normal stability would withstand shock. This chap was brought back to the Base in a comatose condition. We couldn't arouse him, both ear drums were broken, patellar reflexes lost, pupils dilated. Spinal fluid was negative. That poor chap made complete recovery, developed a double mastoid, but with sufficient hearing so he could return, and he was bound to return, but unfortunately in as big an army as we had many would get in who were unfit for service, and were simply a burden upon the medical service.

To show how things developed, how in some individuals this emotional conflict might be entirely unconscious while in others there was a confessed feeling of longing to get away from the front. One captain, in civil life an attorney, a refined, educated man, who found himself in a perilous drive suddenly alone in command. He had been doing splendid work but when he found himself alone he began to quake. The first thing he noticed was a peculiar selfconsciousness, his teeth chattered, his voice quavered, his hands trembled, his knees began to shake, finally he became confused, broke down, and cried. He lost control of himself completely, but on recovery he wasn't anxious to get back. Now as long as superiors were with him he was all right but in a furious drive, many of his men and all of his officers but himself were killed, and he broke under the strain. This man had had a previous attack showing the underlying instability.

Shellshock is neurosis, in my opinion, usually hysterical in nature, and some very interesting symptoms were produced, but to show you that there was mental unrest back of them: One young fellow, a clerk, rather slightly built, found himself near the front handling heavy shells. He was unfit for heavy work. At the end of a strenuous day, he was exhausted physically and discouraged. He crawled into a truck and during the night a shell rolled over on his arm. The arm was numb—he couldn't move it. Brought back to the Base, supposedly with a nerve injury. The man had a hysterical paralysis. It wasn't a bit difficult to cure it. He wasn't a malingerer. He was tired, exhausted, afraid, and unconsciously he developed that paralysis thru suggestion to get himself from that environment. He was not ready to go back, and he had had previous mental trouble.

One man had just received word that his wife had lost her eyesight. Naturally distressed, he started over the top with that mental condition. It was furious drive, many men were killed, he was exhausted, he lay down on the ground with others and found he couldn't get up. He was sent back to the Base, but again it wasn't a bit hard to demonstrate that it was purely a functional thing and he cleared up but was unstable and he broke again under the strain.

Mental cases were usually, in my observation, of the depressive type, sometimes praecox, but gave a history of an attack before the war. They should never have got in. They would come back to the Base in decidedly depressive stupor, wouldn't speak, wouldn't move, lie in bed absolutely quiet, so much so you wondered if they had a brain injury (it was hard to differentiate some brain injuries) but finally they would begin to emerge and make recovery. Interesting to study some types of reaction and study the symptom complex that was controlled by it. We had a few who had a peculiar hysterical pain in the abdomen which could be traced back to a bayonet charge in which they saw the German after stabbing him in the abdomen, and many did develop pain in the abdomen from that terrible experience of sticking the point in. One boy, a negro chap, mentally defective, was sent in for shellshock. He would lie quietly in bed, but there was one big gun we could hear every fifteen or twenty minutes. Every time that gun would discharge the negro was under the bed. Then he would crawl out. He was ashamed, but he couldn't help it.

Another chap in a catatonic stupor. He laid in bed curled up, his head covered up. He never spoke, never moved, he wouldn't eat, he paid no attention to the calls of nature—absolutely indifferent to surroundings. He would suddenly sit up in bed, extend his hands and arms as tho aiming a gun, pull the trigger, and then duck under the covers. It was very striking, very dramatic. He would pose as if drawing a hand grenade, and then fixing his bayonet, would charge. At the time when he was sticking his bayonet into the enemy he was a horrible picture of agony. Tears would roll down his cheeks, he would sob like a child, evidently living over his experience.

Another poor negro grave digger in the Base Hospital was very much distressed. (The firing squad was busy all the time firing the last salutes and naturally the grave diggers were busy). He became obsessed with the idea spooks were riding his back. And there again you could trace the relationship from his occupation and his phychosis.

I don't want to bore you but I want to say this in conclusion; there isn't any question that the man who broke was a predisposed individual. It takes gray matter and a well poised nervous organization to make a good soldier. You can't make a good soldier from a predisposed individual, but those men can be detected with a careful neuro-psychiatric and psychometric examination, every one can be detected, can be placed in a suitable environment where they won't break and if wholly without remedy kept out of the service.

I realize that in the earlier part of the war neurologists got in bad. The psychological tests were often made on officers and were impractical; in many cases there was not complete cooperation and naturally in so large an army with a limited number of trained psychiatrists many men were allowed to go to the front who broke under the strain and were a burden to the medical service, when if they had been detected and assigned to proper duty back of the lines they might have rendered valuable service.

When one of the large benefactors of Harvard College library was a business man in Lawrence, a customer of his firm contracted a debt which ran along for a year or more without any signs of settlement. Several letters failed to bring about liquidation.

One day, while glancing over the religious notices in a local paper, Harvard's benefactor saw something which gave him an inspiration, and he went to his desk and wrote the following note to the debtor:

My Dear Sir: I see in the local press that you are to deliver an address on Friday evening, before the Y. M. C. A., on "The Sinner's Balanced Account." I enclose yours, as yet unbalanced, and trust that I may have the pleasure of attending your lecture.

Yours truly,

——— ———.

A check came by the next mail.—The Boston Herald.

The way in which the United States government has perfected its draft selection has been called "the finest demonstration ever made of local self-government." Forty officers and five hundred clerks assisted Provost Marshal General Crowder in starting the system, but it was put into effect over the country by thirty thousand civilian officers, aided by home-town people, friends, and neighbors.

Private Library.
DR. C. C. HICKMAN.

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The Trained Nurse—Opportunities for Service.*

Irving S. Cutter, B. Sc., M. D.

It is not my province to tell you what you ought to be or what you ought to know, but rather to outline some of the present day opportunities for nursing service. You have completed a rigorous course of three years of training in a splendid hospital and under high grade instruction and you have been taught every day of your course just what you should do and be.

I was much impressed on hearing an address given some years ago by a prominent New York physician at the nurses' graduation of a New York hospital. The burden of the address was, "What you as nurses should be and what you as nurses should do." He read page after page of literal instructions —covering—in his requirements of an ideal nurse—what would have occupied at least ten years of intensive collegiate work. As I remember it—the nurse must be tall and strong, with an angelic disposition, well versed in literature, the arts, poetry, history, science, sociology, economics, and at least one modern language, preferably French. She should be an engaging conversationalist and her manner that of one born. Prior to her entering upon nurses' training she should have had a course in kindergarten work, the better to handle children and to amuse those children of the family—not ill. She should have graduated in domestic science courses, and domestic economy should be hers by second nature, and so forth, etc., etc.

No doubt the characteristics outlined in the aforementioned address are desirable—ideal—but Sanskrit is not nursing; a knowledge of poetry and art are desirable attributes of any educated person, but they are not essential to a woman trained in the care of the sick.

In your three years of training you have received a liberal education—a great many advantages are yours that do not accrue to your college sisters—you have not only studied disease and its ravages, but most of all you have studied life. You have developed your powers of observation, your ability to meet emergencies, and you have seen all sides of humanity with its many weaknesses. You have become a character reader—your initiative is greater; your self reliance and self control have been emphasized. In a word your training has had a definite tendency to bring out the best that lies within you—the development of real character with sympathy and charity as predominant characteristics.

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*Abstract of Address, First Annual Commencement, Training School, Mary Lanning Hospital, Hastings, Nebraska, August 8, 1919.

There are vistas of personal service that open before you: to do something for others, to assist in saving life and relieving suffering, to do something worth while in the world. Yours is a wonderful opportunity only limited by the passing of years and your physical endurance.

There is a great sense of personal satisfaction in your work. A great joy in seeing the turn of a desperate case for the better. There is no monotony; every case is new, with new problems and new personalities. No two cases can be alike, as no two people are exactly alike. There is drudgery in any vocation, but along with your drudgery comes gratitude for a service well and faithfully performed—a something which money cannot represent, a debt due you impossible of liquidation. You can and will be independent; you labor faithfully and you are worthy of your hire. Your financial compensation is good and bids fair to become increasingly greater. As compared with the salaries paid teachers even in the better high schools, you are well paid.

Remember that you are women trained for special duties, duties that bring you closer to humanity than any other class or vocation. Be proud of your work. Be proud of your splendid hospital—its Training School and your class. Seek always the furtherance for good of those factors that have assisted in your training. Cherish your training school ideals and live them in your daily tasks.

* * * * * * *

How readily and with courage unparalleled thousands of trained American women responded to the call of the Red Cross and the Army Nursing Corps is of too recent knowledge to require emphasis. The scenes in our army hospitals during the recent Spanish-American War were not reenacted. The most gifted writer of history cannot pay adequate tribute to the skill, heroism, absolute womanliness, self sacrifice, and devotion of the American trained nurse. Repeated instances have come to light where nurses in our own Nebraska Base Hospital No. 49 expended their meager army pay that wounded soldiers might have special invalid food not supplied to Government hospitals. At such a time heroic response was the rule—with an absolute disregard of self. For such a catastrophe as the recent World War, the supply of nurses was wholly inadequate. Even with the undersupply, nursing was a hundred fold more efficient than during our Spanish-American War, where nursing by orderlies was the rule. The American soldier boy has yet to tell his story—but when it is told the Red Cross nurse will be a leading character in every chapter.

Women have been and are accused of usurping man's inherent prerogatives in certain lines of endeavor. The Red Cross nurse demonstrated one thing — pre-eminently — women want opportunities for service. In no avocation or profession of today are opportunities for development and real service greater than in nursing. It is a truism that the prosperity of the community depends primarily upon its healthfulness—the happiness of its people—and no phase of home life or community life is exempt from the nurse's touch.

Conservation of child life—the very foundation of the nation—rests almost wholly with the trained nurse. Organizations in the larger cities (which have multiplied rapidly during the past five years) and which carry the burden of educating motherhood, depend almost wholly upon the supply of women—trained in nursing—to carry forward the education of the people. Visiting Nurses' Associations today are caring for thousands of expectant mothers, children, and sick of all classes. The tremendous economic advantage of restoring the sick of the community to earning capacity, to normal health, cannot be overestimated. It means the transfer of a non-producer to the producer class and the elimination of economic waste.

Industrial nursing is another wide field for usefulness. Most large manufacturing plants now provide day nursing care for male and female employees alike and cases of early illness are thus detected and long protracted illness avoided. Most industrial corporations now regard the day nurse as an absolutely

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indispensable part of the organization, a department that pays the highest dividends in better health of employees with a minimum loss of time. We are just at the beginning of industrial nursing, the development of which, during the next decade is bound to be tremendous. We must recognize the great demand for trained women in this most important field.

There should be in every community, a social nurses' organization which will furnish accurate advice and aid to cases of tuberculosis. It is possible to absolutely eradicate this disease and much progress during the past twenty years has been made in this direction. Practically all the progress so far made is due to the establishment of dispensaries and to the visiting nurse, who visits the cases and advises as to food, clothing, sanitation, and general living conditions. It is this tuberculosis nurse upon whom lies the responsibility of bettering living conditions among our large foreign population, the poor of all classes and the ignorant. It is this nurse who must stand sponsor for the crusade against over-crowding, poor lighting and unsanitary housing of the nation's children. The story of reforms already accomplished reads like a fairy tale and those of us who have not known first hand of the results of this work, can scarce believe that such living conditions ever existed or that they now exist. Thousands of cases of tuberculosis annually are ferreted out by these nurse scouts, isolated and started on the road to recovery. The destructive agency of disease is arrested — frequently stopped — and sunshine and hope brought into a darkened atmosphere fraught with discouragement.

Life Insurance Companies a few years ago recognized that a visiting nurse in their employ more than repaid the expense involved. Today several of the larger companies have regular visiting nurses who watch the health of industrial policy holders. All this is life conservation — the backbone of the nation. Life Insurance Companies do this because it pays. Even though the motive is not philanthropic, the good accomplished is large. And again must trained women be forthcoming to carry on this work.

School nursing ten years ago was an experiment. Today every enlightened school community provides some form of physical inspection of school children. More than thirty trained nurses in our own state are engaged wholly in public school nursing. The University of Nebraska, at Lincoln, is establishing this year a department which will have general supervision over the health of all University students.

Just as there are visiting nurses in the cities, so must there ultimately come district or county visiting nurses organized possibly with a central state head and having to do with health conditions in every county in Nebraska. The movement for "Better Babies" should be supervised by trained nurses because the real touch with the people must perforce be through the nurse and not through the physician. Already as a part of the University Extension work of Nebraska a supervising trained nurse is in charge of a department designed to bring better health conditions prominently before the people.

Women's Clubs and Societies looking toward social and economic uplift can well afford to forego for a time the study of art, possibly politics and bridge games, to give serious attention to the practical applications of high grade nursing to public health. Nebraska is healthful—naturally—we live here —but we have thousands of cases of tuberculosis and our infant mortality is entirely too high.

That there is a place in our civilization for you—as trained women nurses—I am sure none will deny. Your sisters have brought your chosen vocation to a high place of honor. Your task lies in maintaining high standards and in adding your bit to all that has gone before.

The Ethical Relation of Nurse and Doctor.*

Dr. Joseph M. Aikin, 505-9 McCague Building, 15th and Dodge Sts., Omaha.

The essentials controlling the vocation of a nurse are expressed in three questions, with their answers.

1st. What is my purpose? Service.

2nd. Whom will I serve? The Lord, my associates, and myself.

3rd. What is my reward? A satisfied heart and the necessities of life.

What is my purpose? I will serve.

Our choice of vocation must have followed from meditation which led to our selection of a particular kind of work. What motive led you to enter training as a nurse? Were you unwilling to assume the high privileges of daughter, wife, and mother in the home, and entered training for the excitement, chances for wider acquaintance, and money making in nursing as your goal? If these or similar promptings carried you toward your graduation day, you have predicated your failure as a servant. The essence of all such motives is selfishness, and while self servers may accumulate material riches it never brings satisfaction.

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*Address to Senior Class of M. E. Hospital Nurses, Omaha, Neb.

If you regarded the duties and privileges of daughter, wife and mother, as the zenith of woman's glory on earth but sought the knowledge and experience of nursing as an equipment for the better fulfillment of these God given functions, your choice is ennobling. A strict adherence to your purpose and a willingness to work regardless of any monetary reward but that you may simply serve, will increase your efficiency, and your good influence as daughter, wife and mother will be greatly enhanced by your training.

Whom will I serve? The Lord, my associates, and myself.

Service is a duty, but the performance of duty is not necessarily true service. Service that we enjoy is work prompted by the desire of our hearts to be a moral uplift to our associates who need help. There is a delight in service, which the idler knows nothing about. It is a pleasure to any one who has aided in some creditable achievement to look and say "I helped to accomplish that." Bishop Hall says: "I have known a man to come home from a funeral in high spirits because he had the management of it." Service gives us a place in the community, enables us to pay our debts, and endows us with a multitude of blessings which the idler cannot share. Since the greater always includes the lesser, I counsel you to put a high estimate on the little duties incident to the opportunities of your vocation. There is a true record of a great soldier, who sought a great and precious object, but came near missing it, because it was to be had so easily. His servants faced him squarely with the fundamental principle of service when they caused the statement "If the prophet had bid thee do some great thing, wouldest thou not have done it? How much rather then, when he saith, 'Wash, and be clean'?" It is a common trait in human character to want to do the great things, but too often we hesitate, yes refuse, to engage in the simple, immediate, and commonplace duties all around us. The tragedy of life is our zeal for the dramatic, lime light scenes that elicit popular recognition. As physicians and nurses we are colaborers in the noblest of all vocations, namely, the care of our sick brothers and sisters, and the prevention of disease. Am I my brother's keeper, and if so, who ordained that duty and equipped me for the performance of it? The cause of medicine and nursing, like every great cause, is being retarded by the dearth of persons ready to do the lesser duties. Our progress in Christian and secular work is halted not by the supply of people striving to do the great things in life, but by the absence of people ready to do well the lesser service. Studied effort to achieve the role of hero or heroine seldom opens the door to success. It usually brings failure. If we steadfastly adhere to the simple, patient, faithful, commonplace duties open to our performance, we shall find the heroic things meeting us when we least expect them.

What is my reward? A satisfied heart and the necessities of life.

Again we ask what was your motive in qualifying as a caretaker of the sick. If it was the desire for money and what it can purchase, please remember that the love of money is the root of all evil. Money may get the material things of life, but a satisfied heart is never a purchasable product. Let me define money. It is the medium that will purchase everything except happiness, and the passport to every place except Heaven. If you can help a person who is not financially able to pay to exceed $10.00 a week for your service, do not remain idle because you cannot get $25.00 or $35.00 a week. If you are unemployed, go to work for no salary or any amount you can get, render your very best service, and God's word and my experience for it, your ability will soon command the salary your demands would never obtain. The laborer is worthy of his hire. Our Lord will never permit his loyal children to want for any needed blessing. Just a few suggestions regarding your obligations to yourself, your patients, and to the attending physician.

Neatness, cleanliness and a quiet way of doing your work is essential. If you would avoid trouble to yourself never talk to friends and neighbors about your patient in a way that gives or implies your opinion on the illness of the patient and the treatment you are instructed to give. Ever maintain that womanly dignity yet sweetness of manner that forbids undue familiarity toward you by the patient, doctor or friends of the patient.

Insist on adequate opportunity for your sleep and rest each day, to fit you for your best service when on duty.

Gain the confidence of your patient by a heart love interest in your work to benefit them.

Do not sleep, read, write, or do any work for your own pleasure when on duty. If entertainment is ordered or essential for the good of your patient, be ready to read, converse, walk, run, stand, give breathing exercise, a hot or cold bath, or any exercise suited to the strength, intelligence, social and moral uplift of your patient. Refrain from talking to your patients about their illness, and never cite depressing accounts of any illness, to your patient. Do not acquaint your patient with your family history, personal affairs, or the type and qualifications you demand in the man you would consent to wed. Avoid ostentation, speak plainly but kindly, do not multiply words in unnecessary explanations. Anticipate and quietly supply the needs of your patient. if you would lead and not be led by your patient. Never lie to your patient. In some cases your control of yourself, the family, and the patient, will not tax your resources nearly so much, as your difficulties in obtaining and maintaining harmonious co-operation with the attending physician. If he is young, egotistic, and not acquainted with the duties and limitations of a nurse in the care of her charge, he may require too much of you. If he is old, opinionated, and grouchy he may see but little value in the "Hospital trained nurse" and humiliate you by sending his favorite "home made nurse" to "teach you something about caring for a sick person." In either case he may find fault with you in the presence of the patient thus lessening your influence for efficient service. Criticism of the nurse by the medical profession is frequently offered. Objections are urged by certain physicians to giving a nurse four or even three years in hospital training, or, granting that period of preparation, more emphasis should be placed on the culinary and general domestic duties common to womankind, and less attention to class instruction, didactic or otherwise, in anatomy, physiology, bacteriology, pathology, etc. It is alleged that you acquire just enough medical training to dictate treatment that the doctor alone should exercise. Not a few excellent physicians complain—with a shadow of justice—that their orders on ventilation, sanitation and other general orders are disregarded by the up-to-date technically trained nurse. The occasion for that criticism is not because you had the text book studies in your hospital work, but because your literary training prior to entering hospital service was insufficient for your acquaintance with the importance of your vocation, and its practical application. Your measurement as a nurse is paralleled by the self-centered egotistic doctor, who "don't know and don't know that he don't know." If you have the necessary literary basis and hospital work to merit the respect due an educated and honorable nurse, yet serving under the orders of either an incompetent, or qualified but ill tempered doctor, your obligation as a subordinate to his orders remains unchanged and is an unhappy situation. Under such conditions your Christian character and womanly tactfulness will decide if you had better withdraw from the case, or patiently endeavor to continue your work and show yourself more worthy than your critic. You are obligated to obey the physician rather than the family and friends in the care of your patient. The majority of physicians will gladly listen to your recital of events occurring between their visits, and counsel with you relative to your actions under existing or possible conditions that may arise. Such conference should for the most part be in private between you and the attending physician.

Some begin well in their vocation but fail. They would have failed no matter how advantageous their commencement. Some who began poorly have won. Success was in them, they had character, courage and pluck to work and master difficulties. To be poor at the start is not necessarily a poor start. It is better to climb slowly and surely, than to get a large business early in your career. If you were given much work and lucrative income during your early experience in private nursing, you would be overwhelmed with duties beyond your experience to properly perform, and in danger of becoming egotistic. Many wrecks lie along the paths of life, like the debris of a spring freshet along the creek banks, because people resort to wrong methods for attaining early recognition in their work. Character plus work and perseverance, always spells success. The human being is a triangle whose three sides are the physical. intellectual, and spiritual complements of the individual. Its base is the spiritual side. Your physical and mental equipment are talents to be used by you in accomplishing the desires of your heart. The heart dictates our desires. The will orders the mind to direct action along avenues the intellect says can accomplish the results desired. There are but two spirits, the good and the evil. Which one is in control in your heart?

Treatment of the Appendix Stump.

Alfred J. Brown, M. D., F. A. C. S., Omaha.

Beginning with the recognition of disease of the vermiform appendix as a clinical entity capable of diagnosis and surgical attack, the technique of the operation for its cure has been varied, the variations tending always toward simplification and increased safety. In no point of the technique has the variation been greater than in the treatment of the stump of the organ after the removal of the distal portion. Many methods have been advocated, from simple ligation to complicated procedures of making and turning down cuffs of peritoneum. In certain cases, each of the methods has its field, but there has not as yet been any concensus of opinion formed as to a standard method of treatment of the appendix stump.

To review briefly, the methods mostly used today may be divided into three main classes:

First, simple ligation of the base of the appendix with cauterization of the stump either by actual cautery or with carbolic acid followed by alcohol.

Second, inversion of the stump by a pursestring suture.

Third, ligation and inversion.

Each of these methods has its adherents, and there are arguments for and against each of them.

Simple ligation and cauterization leaves a raw stump which must be absorbed and which, while present, presents an area favorable to the formation of adhesions.

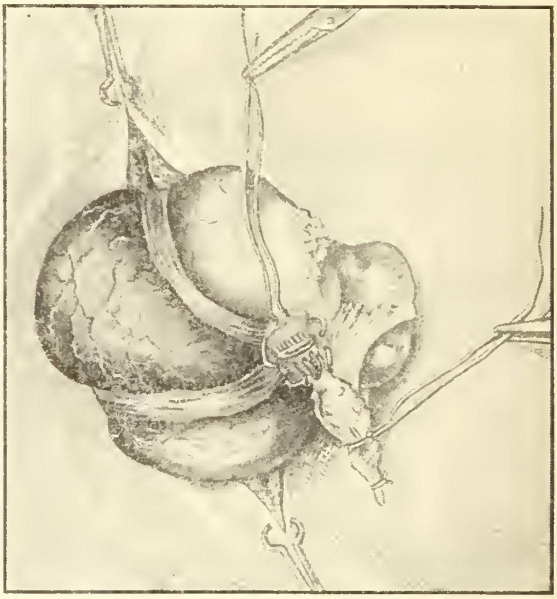

Fig. 1. Stump has been divided and crushing clamp removed. Purse string suture in place. Note that purse string suture passes beneath the vessels in the mesentery.

There is also a possibility that the mucosa may not be completely destroyed and sterilized by the cautery, and a focus of infection may remain. Thorough cauterization may destroy the ligature, thus allowing the lumen of the appendix to become reestablished, and to meet this danger, McCosh advised the application of another ligature proximal to the first after cauterization. The reestablishment of the lumen may occur through failure of the mucous layers to unite though Seelig (1) has shown that a ligature properly applied destroys absolutely the mucous layers and brings submucosa in contact with submucosa. Still this union must of necessity take place in an infected field, inasmuch as it is in direct continuity with the cavity of the cecum. Finally, there is danger of a recurrence of the disease in the stump. The lymph nodules of the appendix are unusually numerous and large, and are present up to the appendiceal orifice into the cecum in the region of the valve of Gerlach. The true orifice of the appendix, therefore, is on a level internal to that of the junction of its outer surface with the cecum. As a rule the ligature on the stump of the appendix is placed not directly at the junction of cecum and appendix, but a centimeter or so away from it. There is left, consequently, an area that may subsequently give rise to a recurrence of the disease provided the orifice of the appendix into the cecum becomes closed off. This is unusual, it is true, but I have seen it occur in the stump of an appendix 1 centimeter long. In favor of simple ligation and cauterization may be urged the simplicity of technique and the control of hemorrhage.

There are three main objections that are brought up against inversion of the stump: First, the danger of secondary hemorrhage. Second, the fact that the stump may not be truly inverted—and third, that, as no ligature is placed around the appendix stump, the lumen of the organ is open for a time during the operative procedure, and the contained feces may contaminate the peritoneal cavity. (Seelig) (1).

The third method can best be summed up in the opinion of Stimson (2) who states that it "combines the bad features of both the others."

In any operative procedure in which a portion of the gastro-intestinal tract is opened there are two well-established principles to be followed in closing the wound. These are —first, the control of hemorrhage, and, second, the inversion of the wall of the gut in such a manner that peritoneum comes in contact with peritoneum along the line of suture, leaving the cut edges of the mucosa projecting into the lumen of the gut. Secondary support of the first layer of sutures may be obtained either by a second row of inverting sutures which pass only to the submucosa and do not penetrate the entire gut wall, or by covering the suture line with omentum. McWhorter, Stout, and Lieb (3) have shown experimentally that a suture line of this character becomes so consolidated in a few hours that pressure from within is unable to force it apart. Bearing in mind the above indications, it would appear that if the danger of secondary hemorrhage could be obviated, inversion of the appendix stump would be the most rational procedure, especially if a method could be used which would not open the lumen of the appendix, and thus avoid the danger of contaminating the surrounding peritoneum.

For the past few years I have employed a method which seems safely to guard against the dangers of inversion and has given excellent results. Nothing original is claimed for it as it is more or less a combination of the various methods which have heretofore been suggested. The detail of the technique is as follows:

Upon ligation of the mesentery of the appendix which is usually done with two ligatures, the proximal ligature is left long and held by an artery clamp. This ligature controls the branches of the appendicular artery which supply the appendix, except the proximal portion at its junction with the cecum. The mesentery after being divided is stripped back to the base of the appendix at its point of junction with the cecum, laid open by separating the peritoneal layers and dissecting back by blunt dissection. This lays bare an area of cecum which is bounded laterally by the two edges of divided peritoneum and passes from the base of the appendix in front backward to the posterior abdominal wall. In this area run the proximal branches of the appendicular artery which supply the base of the appendix and which are brought into plain view when the mesentery is dissected back (See fig. 1). A purse-string suture of Pagenstecher linen is then passed through the cecum one centimeter from the base of the appendix. The suture is begun at a point directly opposite the attachment of the mesentery and when the vessels are reached in passing the suture, the needle is passed through the cecal wall beneath the appendicular vessels. It is then continued on to the starting point. The base of the appendix is crushed with three Kocher clamps (Dawbarn) (4) laid side by side, and the remainder of the gut protected by an intestinal pad beneath the proximal clamp. The middle clamp is removed, and the appendix removed by burning with the cautery, and with a dull heat the stump is charred down to the surface of the remaining crushing clamp. In this way the lumen of the appendix is sealed by the cautery and the crushing clamp, and hemorrhage is in part averted by the same factors. The intestinal pad is removed, the cecum steadied with a forceps at a point just beyond the cut mesentery, the crushing clamp is removed carefully so as not to disturb the apposition of the gut walls, and the edges grasped by an inverting forceps and the stump inverted. The purse-string suture is then tied and the ends left long. Counter traction on the cecum between inverting forceps and forceps at mesentery thus makes complete inversion of the stump sure. If the crushing clamp has been removed gently and the inversion has been performed carefully, the lumen of the gut has never been opened, and there has been no danger of soiling the peritoneum from contamination by the contents of the gut. Finally, the proximal branches of the appendicular artery being attached to the wall of the appendix have been inverted with it and are now securely ligated by the purse-string suture (fig. 2).

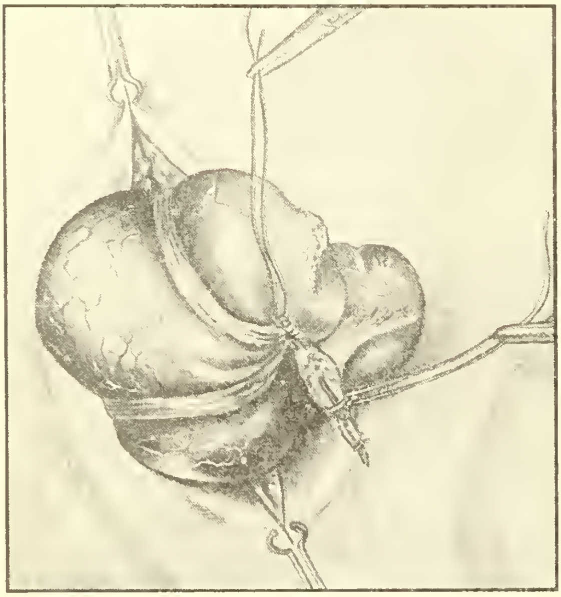

Fig. 2 Purse string suture tied after inversion of stump. Tying of suture ligates appendicular vessels in base of mesentery.

A rare anomaly of the vascular supply which may lead to a secondary hemorrhage is that in which the appendix is supplied by the anterior branch of the ileo-colic artery which courses downward in front of the ileo-colic junction in the anterior vascular fold of the peritoneum in that region. In such a case the mesentery of the appendix is formed by the junction of the anterior vascular with the middle non-vascular fold of peritoneum (Huntington) (5). The proper procedure in such a condition is to ligate the anterior branch of the ileo-colic artery just above the base of the appendix. The remainder of the technique is the same.

The final step in the procedure consists in tying the ends of the purse-string suture to that on the mesentery. This covers over the site of inversion with peritoneum, thus affording a second layer of protection to the original peritoneal suture. This obviates a second suture layer in the gut wall, and avoids the possibility of a suture passing through all coats, which is very apt to occur, as the wall of the cecum between the taeniae is very thin (See fig. 3).

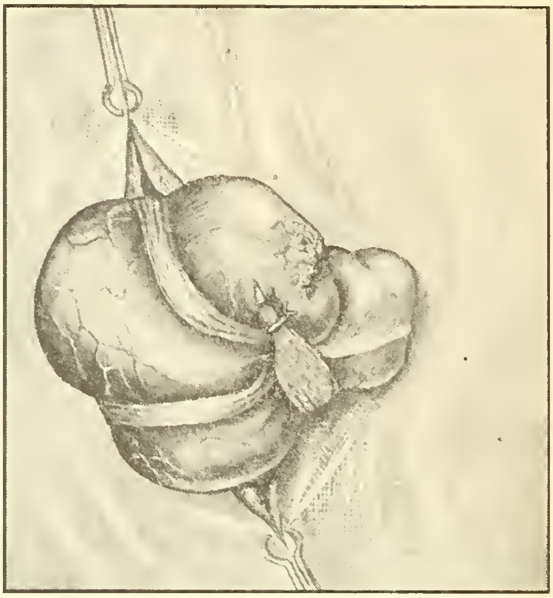

Fig. 3. Mesentery brought over to cover site of inversion.

The above procedure can be followed in the majority of cases of appendicitis. There are, however, cases in which the disease is more of the nature of a perityphlitis and typhlitis than a true appendicitis. In this condition the walls of the cecum are very friable, the peritoneal covering has entirely lost its glistening appearance, and suturing is impossible. It is in these cases that simple ligation of the base of the appendix with cauterization of the stump is indicated. There the chances for a fecal fistula are great in any event, and ligation is employed as an emergency measure, with the possible chance of avoiding this disagreeable complication.

It would seem, therefore, that a possible basis for standardization of technique might be: Ligation and cauterization of the stump in those cases where the condition of the cecal wall will not permit of suture, and the employment of inversion of the stump in all others.

References.

1. Seelig, M. G.—The treatment of the Stump in Appendectomy. Annals of Surgery, Vol. XI, 1904, p. 701.

2. Stimson, L. A.—The Technique of Operations for the Relief of Appendicitis. Annals of Surgery, St. Louis, Vol. XIII, 1891, p. 264.

3. McWhorter, J. E., Stout, A. P., and Lieb, C. C.—The process of repair in wounds of the small intestines. Surgery, Gynaecology and Obstetrics, Vol. XXIII, July, 1916, p. 80.

4. Dawbarn.—Described in Operative Surgery, Binnie, J. F. P. Blakiston's Son & Co., Philadelphia, Pa.

5. Huntington, G. S.—The Anatomy of the Peritoneum. J. B. Lippincott & Co., Philadelphia. Pa.

Arterio Sclerosis.

Lucien Stark, M. D., Hartington.

In taking up the subject of arterio sclerosis, I realize that it is a very much discussed condition and that a great many ideas have been advanced as to etiology, pathology and treatment all of which have some essential differences. I do not propose to take issue with many of the distinguished men that have written out their ideas of the condition, but rather to add what I have been able to find out through my own experience and thus make still further additions to the confusion that already surrounds the disease. In the first place I think that the name is a bad one, especially where it has been stretched to cover as many varied conditions as it has been compelled to. There are two separate and distinct pathological conditions that you will encounter in those cases carrying the label of arterio sclerosis. One is a hypertrophy of the muscular coat of the vessel, making it a thick, heavy vessel and the other is a thickening and hardening of all the coats of the vessel, with or without the deposit of lime salts in the walls of the vessel itself, giving us the non-elastic and friable vessel that we all denominate sclerotic. One is essentially a generative condition and the other degenerative and from that viewpoint our treatment and nomenclature should be formulated. As to etiology, there are many causes and, in the main, the pathology as regards the division above mentioned, can be based on the nature of the causative factor. In the first group of cases can be mentioned labor, either physical or mental, mental stress, high blood pressure. In the second group can be placed, syphilis, lead poisoning, gout, alcoholism or any of the focal infections which are capable of producing any sort of an intoxication. I believe that those in the first group, if let alone and untreated, will eventually become members of the second group and there will be a true atheroma of the vessels affected. As to the pathology we can take up the first group and say that we have only a thickened vessel with many more muscular fibres and a greater development of the musculature of the vessel wall. It is in the second group where we have our greatest amount of pathology as we find everything from a proliferation of the connective tissue in the vessel wall to the actual deposit of lime salts in all the coats of the vessel. In some of the vessels we find a split in the intima and the blood has been forced between the coats of the vessel and by continuous action of the flow of blood, we eventually get an aneurysm, either minute or of some size, in that particular vessel wall. It is precisely the same thing that you have in a weakened casing on your car. The inner tube presses against the fabric of the casing and weakens it at one point where perhaps there has been a break in the fabric, pushes on through and finally gets to the outside wall of the casing and you have a blow-out, which is exactly what you get in a cerebral hemorrhage in a case of atheroma. These splits in the intima as well as the elastica interna are what as a general thing cause the minute aneurysms that are found in the cases that die from cerebral hemorrhage. In those cases of the first group you will occasionally find the same split and with the split and the minute hemorrhage accompanying, the proliferation of the connective tissue cells into the nodules that are felt in badly sclerosed vessels which are simply an induration around the base of an abscess or an injury. So briefly summed up we can say that in group number one, there is a hypertrophy of the muscular coat with irregular nodules in late cases, due entirely to the minute hemorrhages, while in group number two there is extensive thickening of all coats of the vessel with, at times, the actual deposit of lime salts in the wall of the vessel, the nodules in this instance being due to minute abscesses in the wall of the vessel itself.

As to symptoms and diagnosis, they are too well known to go over them to any great extent, so will merely mention some of the more prominent. The usual case that is seen is in the man over forty that has been a patron, as Greene says, of either Venus, Bacchus, Vulcan, Mammon, Mars or Minerva although such conditions may result from simple ageing forming one of the natural terminations of advanced life, or on the other hand, may be distinctly hereditary, as arterio sclerosis is one of the most strikingly hereditary conditions that we have. Men are more frequently affected than women, perhaps on account of the greater exposure to those elements that are usually presumed to be causes of the condition. We must always bear in

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*Read before the Dixon-Dakota Wayne-Thurston-Cedar Counties Medical Society Meeting, July 9, 1919 mind that the sclerosis may affect all the vessels or one group of vessels only. For instance, we can have an arterio sclerosis of the cerebral vessels with practically no others involved. We may have a sclerosis of the muscles of the arm or leg only. So the condition may be present in one group of vessels and absent in another. In probably fifty per cent of your cases the presenting symptom will be dizziness, in twenty per cent failing eyesight due to the damage to the retinal vessels, in ten percent dyspnoea, in ten per cent an unaccounted for oedema, in five per cent cerebral or gastric symptoms and the remaining five per cent distributed amongst angina pectoris, lameness, obesity and accidental discovery. It is always well to take into consideration the kind of work in which your patient is engaged as those whose labors are mental rather than physical, are more apt to show cerebral symptoms rather than lesions of other arteries. By the same token those whose labors are more physical than mental, will show their lesions in the arms, legs, etc. We firmly believe in a splanchnic arterio sclerosis and believe that in the arterio sclerosis of the obese in particular the lesions are more apt to be found within the abdomen rather than in either extremity or the brain. Take for example the obese individual whom you are called upon to attend for some gastric disorder and his age and loss of weight, which is unexplained by any of the ordinary causes of loss of weight, lead you to believe that there is a possibility of some arterial condition, I believe that at least fifty per cent are due to a sclerosis of the abdominal vessels. High blood pressure does not always mean arterio sclerosis but if let alone is apt to produce a true atheroma of the vessels. I believe that we are all too prone to put a blood pressure machine on a man and when we find that the pressure is above normal to any considerable extent, say arterio sclerosis. We find that high pressure is a common concomitant of many of the types of focal infection that we see in sclerotics generally and that the removal of the focus results in the lowering of the pressure. We may have a sclerosis with either normal or sub-normal pressure. In order to have a sclerosis, you must have a thickening or hardening of the vessels themselves and not simply high blood pressure. It is, however, the high pressure that produces one of the best diagnostic signs and by that we mean the tortuous vessels that we see in all true arterio sclerotics. They are in the main produced by the blood going through the vessel with such violence as to cause a lengthening of the vessel and as it cannot stretch out it must become convoluted in order that it may be accommodated. You will likewise get lateral motion in, for instance the brachials when they are the seat of the disease and the so-called "jumping arteries" will likewise give you a clue that there is high tension in some of the vessels some place which calls for a very close inspection of the vascular system.

So then in order to classify our symptoms, we can say that, given one or more of those above mentioned as presenting symptoms, we will then go in search of; history, possible causative factors, tortuous vessels or what not to confirm or deny the existence of an arterio sclerosis at some point in the human organism. As to the final diagnosis would say that there must be some symptoms such as are given above or some combination of those symptoms. There will be the case that walks into the office with a limp and you can find no basis in either the joint or the musculature for producing the symptom, it will pay to make a reasonably thorough inspection of the man's blood vessels. There are so many things that can constitute the presenting symptom in an arterio sclerosis that I hesitate to go into them as it would require too great an amount of time. One of the things that I again wish to impress upon you is the fact that high blood pressure does not necessarily mean arterio sclerosis. It is my own belief that we have all paid too much attention to high blood pressure in the past and have been too ready to say that a man has arterio sclerosis when all that we had to base our diagnosis upon was high pressure. In most arterio sclerotics you will have high pressure but it does not follow that the pressure is due to a sclerosis which may exist at the same time. The age of your high pressure man will nearly always be such that he could have a sclerosis but for heaven's sake do not make a diagnosis of arterio sclerosis upon every man that comes in with a high pressure. Remember that many of the toxemias are productive of a high pressure and that these toxemias can come from a chronically affected tonsil, tooth, gall bladder, appendix, pelvic abscess or even in chronic tuberculosis. In what is called interstitial nephritis with the increase of connective tissue in the kidney itself you will, as a rule, find an inordinately high pressure. In your cases of renal insufficiency from whatever cause, you will find a high pressure. I had a case some three years ago in a young man of eighteen who walked into the office and his chief complaint was shortness of breath. We looked him over and found nothing of importance until we took his blood pressure and found him with a systolic pressure of 185. He could not very well have an arterio sclerosis so we looked for a kidney lesion but we found that there was nothing in the chemical or microscopical examination of the urine that would warrant such a pressure. We finally made a functional test of his kidney and found that the Rountree required two hours and thirty minutes and that it required three hours for methylene blue to appear in the urine after it had been injected into the muscles of the back. Surely a functional kidney. After having a Wasserman and finding it negative, all there was for us to say was that it was a functional kidney of some sort. We lost track of the young man shortly afterward and have heard nothing from him since, so we do not know just what his subsequent history has been. All this goes to show that had he been forty-five instead of eighteen he might have had a diagnosis of arterio sclerosis made upon him without further investigation. Lately we have encountered several cases of high pressure and we have always tried to account for them in some other way than arterio sclerosis. In one man with sclerosed vessels and a systolic pressure of two hundred and ten, we were able to give him considerable relief from some very troublesome symptoms, as well as to pull his pressure down, by pulling all the old rotten infected teeth in his mouth. There is no doubt but that some permanent damage had already been done by the focal infection that was present for so long a time as his vessels are full of indurated places where the various bacteria have caused minute abscesses in the vessel wall and left the same type of induration that you will find after an abscess anywhere else. This man still has a high pressure and probably will become a true sclerotic in time but there is no doubt that the time of his becoming a sclerotic has been considerably lengthened by the removal of the pathology that was mainly the cause of his high pressure.

Now as to the prognosis of your arterio sclerotic, you can simply say that as long as you have a sclerosis without extremely high pressure, you will get along fairly well beyond the few annoyances that the sclerosis is apt to produce. By annoyances I mean the various gastric as well as mental disturbances that seem prone to attack the arterio sclerotic. In general it may be said that the average arterio sclerotic has perhaps some additional years in front of him if given the proper sort of treatment and will co-operate with the physician in the effort to preserve his own life. A prognosis of death unless the sclerosis is accompanied by high pressure is as unwarranted as is the prognosis of life everlasting in any case of atheromatous arteries.

Now as to treatment of this condition, it can be placed in four distinct classes. First thing is the prophylaxis over which as a rule you have no control, as the case is already showing symptoms when you see it. Next the removal of focal infections of whatever type may be present if it be possible. Then your general treatment consisting of methods of living, diet, and the general conduct of their lives. Lastly, your purely medicinal treatment. Knowing as we do that your arterio sclerotic is the result of the first few things mentioned as causative factors, it will be seldom that you can see a case where prophylaxis can even be thought of. The removal of focal infections calls for the most painstaking examination that you can possibly give a patient. You must look for and prove, mouth pathology, throat, gall bladder, appendix and pelvic pathology, an old encysted T. B., perhaps an overlooked empyema and even a chronic otitis media can be put under suspicion. Be sure of your location of the focus and then remove it if it be humanly possible. Don't pull all the teeth in the neighborhood and remove all the tonsils under the sun without some definite reason for so doing. Be sensible. Never forget that the man with tuberculosis can have an arterio sclerosis as well. I had a patient with atheromatous arteries a short time ago and upon going over him found that he had tuberculosis as well. We proved both conditions at autopsy. As a rule with the removal of your foci of infection you will have a drop in blood pressure, if it already be high, which will be very gratifying both to yourself and to your patient as it gives him some relief from troublesome symptoms. After the removal of these foci take up with your patient the method of living that he must pursue for some time at least. As a rule your patient will be of the higher order of intelligence so it will be easy for him to understand the whys and wherefores of his method of living. He must understand that there must be the minimum of excitement and mental stress. If possible remove him from the business that has been driving him. Nervous strains have been given a great deal of credit for the production of arterio sclerosis and I am inclined to think that the credit (?) is being given to the right place. Your professional gambler, if he stays with the game long enough, is bound to turn out sclerotic in the end. As we all know these people generally have, or later acquire, a bad heart and in practically all of them you will find the apex considerably outside the nipple line so the principle of rest every so often must be insisted upon. It will not be necessary for this to be continuous but at intervals a period of rest must be had. If there is any organic lesion of any type, periods of decompensation are to be handled as though the bad vessels did not exist. Some years ago some one advocated the drinking of large amounts of distilled water, stating that it would help remove the lime salts already deposited in the walls of the vessels. I think that it is about as sensible as giving a patient with gall stones big doses of ether internally in order to dissolve the stone. The proper amount of water to give these people is the amount that satisfies them and that is both enough and not too much. Now I believe in feeding these patients. Feed them what they need in order to maintain their nutrition. Don't feed three big meals a day but rather five small ones. You will see your arterio sclerotic losing flesh and getting thin and weak, complaining greatly of pains in his stomach and a very little investigation will show you that the man is starving to death. You know you have a hyperchlorhydria in starvation and that is what you have here. A typical pylorospasm resulting from the hyperacidity. Proteid foods will be better handled by these people than either carbohydrates or fats and you must use some alkali in order to control the acidosis until you get them started eating again. Maybe their pressure will go up a little at first, but what if it does, it will come down again. Some of the first foods to be given should be predigested as I firmly believe that the vessels of both the stomach and gut will become more or less impervious and their absorptive power greatly diminished and that is one of the reasons that these people lose so great an amount of weight and finally die of starvation. Now as to the reduction of blood pressure, if it is inordinately high, it should be reduced, if not so high, don't fool with it. As to agents best fitted to reduce the pressure, our experience with the old U. S. P. Tr. Aconite has been excellent. Get a good preparation and don't be afraid to give a good dose. We usually start with two drops in water after meals and increase one drop a day until we get the effect of the aconite and then drop just under the dose at that time. The nitrites have been of but little use in my hands. Whether the fault is with me or not, I don't know. I had a high pressure man at one time and put a blood pressure machine on him and gave the ordinary dose of nitro glycerin and took five minute readings. It was back at the original point in just twenty-five minutes. Sodium nitrite in two grain dose lasted two hours. If you give three grains of sodium nitrite the pressure will stay down for three hours but your patient is completely knocked out for the first hour after the dose is administered. In my opinion none of the nitrite group have permanence enough to be of value except as an emergency remedy. Now as to digitalis, I believe that it can be given to a sclerotic patient when it is necessary to be given and we would class as indications, a decompensated heart and a great diminution in the twenty-four hour urine. In giving digitalis, I think that the best preparation is the powdered leaf as it has always seemed to me that the more the pharmaceutical houses did to digitalis, the more confusion was aroused as to its use and the worse they made it. Just at this time a reliable preparation of the leaves is hard to obtain, but it will not be for long. Prior to the war most of our good digitalis came from England but we are now engaged in raising our own. The experiments so far seem to show that the Minnesota crop has proven itself to be the best of our American growth. It is our custom to start these people on two grain doses three times a day and if necessary increase it until we get the desired effect. It is not a good plan to continue the digitalis for more than six consecutive days.

The best sign that your digitalis is doing something is when the twenty-four hour urinary output commences to increase. In making your objections to the use of digitalis on account of the increase of blood pressure remember that the renal insufficiency present in most of your sclerotics requires a greater pressure to put the blood through the kidney in order to eliminate the waste products of metabolism. Just now Strophanthus seems to be considerably used in some of these heart cases but as we have not used any of the various preparations, we are incompetent testimony as to the merits or demerits of any of them. In nearly all of our sclerotics there will come a time when they get badly jaundiced. When that time comes, treat them just as though they had no sclerosis at all. Do not let them become constipated. We usually have them take a mixture of equal parts of sodium sulphate and sodium phosphate, a teaspoonful in a half a glass of water before breakfast. In feeding these people it is usually easy to get 3,000 calories per day into them by means of predigested foods and proteins generally. One of the additional reasons for the use of so much protein is the fact that it helps to bind the acid secretion of the gastric juice and is of marked assistance in combating the acidosis. Now some form of the iodides is usually given and in your syphilitic cases is undoubtedly of great value but when it comes to the other type of cases, I cannot see any rational basis for the administration of them. When they are given we usually give five drops of the U. S. P. Tr. Iodine in water after eating and in that way it will serve two purposes. You get the iodine effect and the presence of the iodine in the stomach will assist in the prevention of fermentation. As a rule your arterio sclerotics do not do well on any of the ordinary chloral or bromide sedatives for the relief of the nervous symptoms that so beset them. We believe that one of the things that opium and its alkaloids were put here for was for the purpose of controlling these patients. Start with hypos of codeine and it will be a long, long time before you are compelled to use any of the more potent preparations of the drug. Personally I can see no great amount of damage in using the opium alkaloids and they certainly go a long way toward making life bearable for this type of patient. So to sum up the treatment, we can say: Remove focal infections, eliminate nervous strain, keep them contented if possible, nourish them, in syphilitics, iodine them, don't be afraid of digitalis and opium and in this way you can prolong their life and keep them with you for a considerably longer period than they would ordinarily remain.

Now, gentlemen, I know that this paper is open to a great deal of criticism both for its general crudity and for some of the ideas advanced and I hope that it will be thoroughly discussed as we are going to see a great many more of these cases in the future than we have seen in the past. The high tension of our everyday life together with the fact that we expect an increase in the number of syphilitics is going to be productive of a great many sclerosed vessels. Your one chance of using prophylaxis is to cultivate your people into appearing at the office once every so often for examination and when you see them slipping, call a halt and only in this way can we hope to cope with a condition, that, after it is once established, is sooner or later fatal.

Entero-Colitis.

Differential Diagnosis and Treatment.*

W. R. Talboy, M. D., Newcastle, Neb.

I do not conceive that it is desirable for me to attempt any discussion of the bacteriology of several classifications of enteritis. Enteritis, that is an acute infection of the intestinal tract, may be caused by one or several organisms and on bacteriological examination the offending organisms may be demonstrated but for the purposes of diagnosis these methods are rarely applicable. The list includes, according to Simon "the colon bacillus, the bacillus of Finkler and Prior, the green bacillus of Le Sage, the bacillus pyocyaneus, etc."

Personally I would emphasize the "and-so-on" part of this enumeration for I believe that intestinal infection is more common than we usually recognize and that the infection is more varied and that it is caused by a greater variety of organisms than we know as yet—this last being my theory of the reason for the varying manifestations of the trouble. But it is not my intention to attempt any extended discussion of the aetiology of the disease. Extended and authoritative discussion of the disease from the laboratory standpoint is at hand in every physician's library. It is rather my purpose to give one or two practical conclusions gleaned from my own experience. In what I shall say therefore I give merely my own opinion and I state it here as briefly and clearly as I can for your consideration—confident that you will weigh my conclusions fairly in the scale of your own experience and reason and if any suggestion I may make shall prove of use to you in your daily practice that fact will help me to pay something of the debt I own I owe to the practical papers of brother physicians before this and other societies.

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*Read at the Dixon-Cedar-Dakota Thurston-Wayne Counties Medical Society Meeting, July 9, 1919.

In dealing with the diagnosis of enteritis there are but few troubles presenting symptoms so similar as to make diagnosis difficult. Of these perhaps appendicitis and typhoid would present the greatest early difficulty. But in appendicitis the pain is greater than is usually the case in simple enteritis and this pain becomes speedily localized so that early differentation should present little practical difficulty. In typhoid the early differentiation is happily not of grave importance as the preliminary treatment would be exactly the same in either trouble and by the time any difference would need to be made in the treatment the diagnosis would be made clear by the characteristic fever curve of typhoid or later by hemorrhage from the bowels. Several poisons might give the same symptoms as a severe enteritis at its onset but here the history, almost certain to be available, of the poisoning, would prevent a mistaken diagnosis. Acute malarial fever would not be difficult to differentiate after a few days and the treatment being the same in the interim the early diagnosis would not be essential. In intestinal tuberculosis the chronic nature of the disease would point to the diagnosis.

Let me repeat for it is one point which I wish to bring out: Enteritis is an infection of the intestinal tract and its logical treatment is the same as that in any of the diseases that are so similar in early symptoms as to be mistaken for it, so no harm will be done if the exact nature of the infection is not ascertained immediately. In dealing with enteritis in any of its forms we are dealing with an infection of the intestinal tract—an infection that spreads its toxins rapidly throughout the system and sometimes causes symptoms so far removed from the familiar manifestations of intestinal infection that we may not at once recognize the cause of the trouble. It is not difficult to understand why the intestinal tract should so often be the seat of virulent infection—the introduction into the stomach and the bowels of food and drink, every few hours and in quantity, offers opportunity for the introduction of myriads of toxic agents and snug, warm, moist folds of the intestine furnish an ideal propagating area for them while the provision for the absorption from the intestine affords equal facilities for undesirable citizens—i. e., toxins —as for the tissue builders that in health find this the path of distribution. The greater prevalence of these infections in the hot weather is, I think, largely explainable by the fact that food so readily decomposes in hot weather and the probability of infection is thus greatly increased.

In a special form of enteritis in infants that we call cholera infantum we see a striking example of this fact for cholera infantum is almost always traceable to bad, that is, impure milk. But enteritis is a disease of all ages and it occurs at any season of the year and in all climes. And while many, perhaps most, cases might be traced to infection from impure food or drink this is not always true. But whatever the initial cause we have always the same general condition to reckon with—an infection in the intestinal tract. As infection may be caused by one or another particular microbe—or it may be caused by more than one—it may be difficult, often impossible, to determine the microbe with which we must deal. Happily that fact makes little difference. Given the indications of intestinal infection present and the treatment is the same no matter how the infection gained access to the body nor what the bacillus may be. Most cases of enteritis are, I believe, cases of mixed infection. The symptoms of a typical case of intestinal infection are: sometimes an initial chill—often merely a chilliness—nausea, sometimes vomiting; abdominal pain, diarrhoea—(occasionally we have cases where there is constipation, amounting at times to obstipation instead of diarrhoea); more or less fever; in exceptional cases instead of fever we have a subnormal temperature; weakness and pros-

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tration often greater than other symptoms would seem to warrant; sometimes there is present great restlessness. These are characteristic symptoms. In any case one or more may be present in only a minor degree. The clinical picture may be recognized, however, if only a part of the symptoms are lined boldly enough to be seen, and this is the second point which I wish to emphasize—intestinal infection is of more frequent occurrence than is often suspected. Winter or summer, in old, young, or the years between—the infection of the intestinal tract is frequent. Called to see a case with some disturbance of the digestive system evident—the history of malaise, some pain, perhaps nausea, neither diarrhoea nor constipation yet marked enough to have attracted attention. Vague symptoms but often a weakness and distress out of all apparent proportion to the objective symptoms present. No indications from which a positive differential diagnosis can be made—I believe it is good practice to proceed on the assumption that we are dealing with an intestinal infection. For, if in the fullness of time the trouble becomes more clearly marked and another diagnosis is possible, the treatment you have instituted will have done no harm—will, I feel sure, have been of benefit—and in an astonishingly large proportion of your cases, the prompt institution of vigorous treatment aimed at an intestinal infection will stop the progress of the disease and your patient will make a quick and easy recovery. Another point I wish to make here is that enteritis is sometimes so prevalent that it is epidemic. In my own practice I have had experience several times with epidemics of intestinal infections. I could not doubt the cases—they were too similar—and the number occurring within the same limits of my own practice during a few months was so great that the trouble really amounted to an epidemic. In these several epidemics it is worth noting too, that the symptoms in the different cases were more nearly identical than in ordinary practice where only a few cases were occurring from time to time. My theory is that at times there is present in a given locality a bacillus which causes the clinical picture the cases then occurring present. As I have said there are many forms of intestinal infection—presenting similar but not the same symptoms and similar but not the same results, and during an epidemic some particular bacillus is more prevalent, perhaps more virulent, than others thus giving us a more coherent and typical clinical picture.

As I have said, if logical treatment aimed at an infection of the intestinal tract is promptly instituted, very often your cases will never develop severe symptoms.

There will be many cases, however, where at the beginning of the trouble the right treatment has not been instituted—sometimes no physician has been called and sometimes the trouble has not been recognized—whatever the reason, no effective treatment having been given, the symptoms have become more severe and others make their appearance. In older persons if the trouble has gone unchecked for a time or if the initial infection has been of a particularly virulent type, there often occurs great restlessness and not infrequently delirium. In children in the advanced stages, convulsions are not infrequent. In more than one case where an infant was in convulsions I have used the high enema of normal salt solution, sometimes persistently for an hour or two, before I got results, dark, slimy material in great quantities—and the bowels having been emptied, the convulsions would cease. Some days ago I was called a considerable distance to see a child—a typical case of intestinal infection. The physician in charge had been giving anodynes in spite of which the child had cried constantly for three days and nights with pain and restlessness. After several high enemas of salt solution and a thorough emptying of the bowels the little one became quiet and fell asleep and the parents telephoned me the next morning that the temperature was considerably lower and the child resting comfortably. This, the use of a high enema of normal salt solution, is the first part of the treatment to be instituted. It is well in many cases for the physician to use it for the first time himself to teach the nurse just how it is to be used. Use a copious enema of warm, normal salt solution, introducing it as high as possible by means of a colon tube. Use a gallon at a time if necessary. I have used two gallons at a time. If there is a history of constipation or if the case is in the later stages with a distended abdomen or if, in an infant there are convulsions, use the enema repeatedly until you get results. The use of the enema has more than one object, any one of which would be enough to make its use imperative. First, it washes out the bowel contents thus getting rid of quantities of infective material; second, it introduces into the blood through absorption, normal salt solution—valuable for its supportive effect in all toxic conditions. Probably because of its first effect, unloading the toxins from the bowel, it eases pain and makes the patient more comfortable. In the case of infants in convulsions this effect seems little short of marvelous. Never, never administer opiates. They not only exert no curative effect—not reaching the cause of the trouble in the slightest degree but they make the trouble worse by lessening if not actually inhibiting the natural action of the bowel and thus prevent nature from getting rid of the toxic contents of the bowels. Use them frequently from the beginning as long as the infection is present, copious high enemas of normal salt solution.

Second: Use a laxative that will have not only a gentle purgative effect but will also cause an added watery secretion from the mucous membrane lining the bowels this helping to flush the bowels—with this end in mind I use a saturated solution of magnesium sulphate. The dose for an adult is one teaspoonful every two hours. Next, I am a firm believer in intestinal antiseptics and I feel that my faith is founded on the solid rock of experience. In these cases I know of no better intestinal antiseptic than listerine and glycerine, equal parts, a teaspoonful in water for adults every three hours while the trouble is severe, lessening the dose as the patient improves. Dosage for children of course to be suited to the age of the patient.

Next, not only is the medicine given in water but I also want the patient to have all the water he will drink. And this, even though he vomits. If there is nausea the vomiting is the only symptom—it is not in itself alarming and it is easier to throw up the water than be nauseated when the stomach is empty. Indeed, if a patient is nauseated and straining it is good practice to give him a drink of water which he will probably vomit at once, washing out the stomach and relieving the nausea. As the water sometimes seems to cause vomiting it is well to explain to the patient or nurse the reason for encouraging the patient to drink all the water he can.

As milk seems so often to be the especial habitat of the trouble making bacilli, stop the feeding of milk at once—substituting for it albuminous gruels—as white of egg in water, rice water and similar liquids. The bacilli do not multiply in albumen and it is probable also that the albumen exerts a healing effect upon the lining of the bowel—coating the sensitized mucous membrane and helping in the healing process. No lime water. Thirty years ago it was the practice to put lime water in infants' milk to "preserve the milk". Now we know that the way to preserve the milk is by having the milk clean and the vessels containing it aseptic—and the reason for using the lime water has happily disappeared. Unfortunately the practice has become so established that it still persists in spite of the fact that there exists no logical reason for its use and there are many reasons why it should not be used. In no other trouble perhaps has internal medicine made a more distinct advance in the past generation than in the treatment of intestinal infections. Thirty or forty years ago the physician gave bismuth, opiates to "check the diarrhoea" and thus bottled up the infection and thwarted nature's efforts to throw off the toxins. For that is what the diarrhoea is in these cases—nature's effort to get rid of the toxins that are causing such havoc. For the initial impulse in the direction of assisting nature instead of thwarting her, we must give the credit to Hahnemann—for in applying his formula of "like cures like" to diarrhoea he gave laxatives and helped nature get rid of the toxins as I have said. But while we must credit him with this logical treatment I fear he did not himself understand the logic and I would not wish to apply his formula to all troubles.

The diet will be restricted during the worst of the trouble to liquids—in infants, white of egg in water, then broths, fruit juices, venturing very cautiously to a soft diet as the fever subsides and it is evident that the infection is disappearing. These infections are very persistent however. You will frequently find that you have gained control of the infective process but upon relaxing your treatment the process springs up anew. The principle is familiar to every physician. In certain types of infection the antiseptics will destroy the germs present but have no effect upon the spores which will in turn develop and another course of antiseptic treatment will be necessary—sometimes this is repeated for a wearisome time and in some of the infections to which that breeder of trouble, the intestinal tract, is subject, this recurrence is very persistent.

The usual measures may be taken to make and keep the patient comfortable but I regard as unnecessary the use of ice packs and as unsafe the use of any opiate whatever. Sponge baths with tepid water—clean, comfortable bed—all the water he will drink—these with the remedies above outlined will not only make your patient as comfortable as he can be made in such an illness but all will be contributing to his recovery.

To recapitulate: Infections of the intestinal tract are very frequent. The treatment is easy and efficaceous and in all doubtful cases should be routine. Second: The treatment should follow logical lines looking to an elimination of the cause of the trouble. As we have an infection of the intestinal tract to deal with we should use every means we have to get rid of the infection and to limit its effects. Dealing with the stomach and intestines, the easiest and most effective way of getting rid of the bacteria is by flushing the invaded area copiously with normal salt solution. Water, then to take, all of it the patient can be induced to drink—this empties and washes out the bowels and the salt solution, itself an antiseptic agent, will be absorbed to some extent into the blood—reenforcing, as Sir Almroth Wright points out, the resisting power of the blood—in technical phrase, raising the opsonic index. Next such intestinal antiseptics as can be safely given to destroy the noxious germs present. The ones I use and have not found wanting I have given.

In conclusion—I have had many cases—a great many cases of recent years—so that I wonder if enteric troubles are not increasing—and I have found the treatment above outlined so effective that I hope those of you who may not be wholly satisfied with whatever line of treatment you may be using will try the suggestions here outlined. I feel sure you will find them, as I have found them, very effective.

It might be well to differentiate between the gas bacillus type and the diarrhoeas caused by the dysentery bacillus, as the treatment is different for each type. This can be done by stool culture. The dysentery bacillus lives upon protein food much more readily than it does upon carbohydrate and the products which it forms from protein are much more toxic than the products from carbohydrate. So feed these cases on a low protein diet and a fairly high carbohydrate giving the baby as much food as it can reasonably take. Carbohydrate food tends to discourage the growth of the dysentery bacillus. Protein food encourages it. It is usually best to give an initial purge of calomel or castor oil and starve for twenty-four hours. Give nothing but a five or six percent sugar solution. Later start feeding by adding barley water, then skim milk to this. Some will not eat; it may be necessary to resort to the stomach tube.

The Field and Results of Roentgen Therapy.*

Albert F. Tyler, B. Sc., M. D., Omaha.

Roentgenotherapy has passed through the experimental stage and has been in use for a considerable period of time with very satisfactory results. During the early period of employment of this therapeutic means, the profession was handicapped by the physical limitations of the apparatus used for producing the roentgen rays. Only a few years ago these physical handicaps were brushed aside and since that time a new chapter has been written in roentgenotherapy. These physical handicaps were brushed aside by the genius of some of America's foremost physicists. We have in mind the invention of the so-called interrupterless transformer devised by Clyde Snook of Philadelphia, and the invention of the tube which makes present day roentgenotherapy possible, by Prof. W. D. Coolidge. These two American inventions have made possible a forward step in roentgenotherapy which has surprised the fondest expectations of the pioneers in this line of work. In fact, no less an authority than Boggs of Pittsburg makes the assertion in a recent article, "That it is now possible to give by means of the Coolidge tube, the same dosage at a depth of ten centimeters, as would be given by ninety-two grams of radium at the same distance."

Now that we have perfected the apparatus for doing satisfactory deep therapy, the field for employment of this therapeutic agent has become quite clearly marked out. It is my opinion, as well as that of others, that the roentgen ray should never supplant surgical treatment, but should be supplemental to it. The types of cases which are suitable for this treatment are well known, but we will mention them in detail so that we will have clearly before us the field which is suitable for this method of treatment.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Lupus Vulgaris is not so common in America as it is in Europe where Finsen has employed with great benefit the use of the ultra violet ray passed through quartz to the site of the disease. It is my opinion that the roentgen ray will accomplish all that the ultra violet ray will accomplish and will do it with greater ease, less inconvenience to the patient and with more satisfactory results.

Lupus Erythematosus is more stubborn and requires heavier treatment even to the point of slight vesication. If the treatment is carried far enough the disease readily responds.

Actinomycosis: It has only been in recent years that this disease has been treated with roentgenotherapy. In fact, in 1915, Brunzel reported a case of actinomycosis successfully treated by this method and made the statement that he was able to find only eight cases recorded in German literature, which had been treated in this manner. Since that time, we are sure that the treatment has been more generally employed, although we do not find much of it in recent literature. My personal experience in treating this disease has been very gratifying, as the cases have responded quite readily. Of course, in the advanced cases where the tissues have softened down in local areas, these areas have been treated surgically to allow the escape of the liquid detritus. In advanced cases the time elapsing from the beginning of treatment until the case has entirely recovered is considerably longer, occupying in many instances several months. Of course, medical treatment is used in conjunction with the roentgen ray.

Ringworm: The roentgen treatment of this condition is of comparatively recent origin, but has met with considerable favor with the profession. When one sees the certainty with which this can be treated and the ease with which the treatment can be administered, one cannot refuse to endorse the method. In my hands the technique employed. is to give a single measured dose which produces epilation. As soon as epilation has been produced, the ringworm heals and in about three months the hair returns. There is no need to carry the treatment to the point of vesication and scarcely any erythema is necessary.

Tubercular Glands: So universally satisfactory have been the results obtained by roentgenotherapy in tuberculous glands that many cases could be cited in the literature where this method is recorded in preference to surgical means. Especially in children where the cases are seen early and the glands are small, a few treatments will eliminate the condition entirely. Where the cases have been neglected and the glands have become large, the period of time necessary for recovery will be much longer and the glands will often break down and have to be incised in order to eliminate the detritus. No less an authority than S. L. Wang of New York has reported one thousand cases of tuberculosis of the cervical lymph glands. Pulmonary tuberculosis was a sequel in none. The technique employed in treating this condition is the use of highly filtered rays carried to the point of erythema, followed by a period of rest and then as often as necessary, until the child has fully recovered.

Among the hyperplasias may be mentioned keloid, hyperthyroidism and uterine fibroid.

When proper technique is used in the treating of keloid, it is surprising how rapidly the sensitiveness disappears and how quickly the growth melts away. One need not carry the treatment to the point of erythema but should repeat an erythema dose as measured by the pastille about once in three weeks until the skin has become soft and pliable.

Hyperthyroidism: Roentgen treatment of this disease has been employed since the advent of the roentgen rays. In the earlier years the results were very disappointing, resulting in very little if any improvement in the majority of cases and leaving marked scarring of the neck in the region treated. Since the advent of more powerful apparatus so that heavier filters can be employed, the results have been much more satisfactory.

In fact, in chosen cases the results have been 100 per cent. There is no operative mortality and no nervous shock connected with the treatment. It is my belief that the treatment should be administered in very intensive doses at a single sitting, giving at least three times the pastille erythema dose, covering both lobes of the thyroid and also the thymus region. At the same time roentgenotherapy is instituted, the patient should be put to bed and medical treatment followed for the next three weeks. Almost immediately under this regime the patient's pulse will drop, the toxic symptoms begin to disappear, and marked improvement will be noted. At the end of the three weeks' period the same dosage of roentgen ray is again given. Usually two or three such treatments at intervals of three to four weeks will be sufficient. In cases which do not respond to the first treatment, surgery should be recommended immediately so that the patient will not suffer too long for want of relief. In advanced cases where the heart is in such condition that surgery is not advisable, roentgenotherapy combined with medical treatment will very often improve the patient so that surgical treatment becomes possible.

Uterine Fibroids: The treatment of uterine fibroids by means of the roentgen ray was early advised and fostered by Koenig and Gauss. At the time that they instituted this method of treatment the apparatus employed made it impossible to give the dosage which can be given today, and made the treatment so prolonged that the patient became exhausted before the treatment was finished. In spite of these handicaps very excellent results were reported and these results are daily being repeated by many American therapists with the greatest of ease. The technique employed should be the use of the heaviest filtration and the maximum dosage applied over the region of the fibroid through multiple points of entry. These points of entry are marked off in squares on the abdominal wall, the ray being focused on the growth at all times. A corresponding surface on the back of the patient is marked off into squares and dosage applied in the same manner. It is my custom to give three times the pastille dose through each portal of entry at one sitting. To make it easier for the patient we usually give an erythema dose each day for three successive days, then allow the patient to rest three weeks. In practically all cases the hemorrhage will be markedly diminished before the second treatment is given; in many cases it will entirely cease; in others it will not cease until after the second series of treatments. Usually three series of treatments are all that are necessary. I think it advisable to rule out carcinoma by curettement and microscopical examination of the scrapings. Where possible, radium should be applied directly into the uterine cavity, in conjunction with roentgenotherapy through the abdominal wall and back. The results reported by Howard A. Kelly recently show what can be accomplished by the use of radium in treating this condition. It is my experience that these same results can be obtained by the proper use of the roentgen ray.

Among the diseases of the blood and vessels may be mentioned Hodgkin's Disease, Angiomata and Spleno-medullary Leukemia.

Hodgkin's Disease has presented a problem to the medical profession which has been largely unsolved. In recent years the employment of massive doses of highly penetrating roentgen rays has given very satisfactory results. In many cases the effect has been almost unbelievable. Case reported a number of patients with marked enlargement of the cervical and axillary glands and such extensive involvement of the mediastinal glands that respiration was embarrassed. Massive treatment of these cases resulted in very marked diminution in the size of the glands and the return of these patients to a practically normal condition. Arthur F. Holding recently reported ninety-six cases of this disease with marked improvement in all of the patients, some of them remaining symptomatically well for a period as long as four to six years. All cases of this disease have a tendency to spring up into an active stage after a certain period of time, but if the patient will follow the treatment carefully, the disease can be repressed a second or even a third time. The younger the patient the more grave the prognosis. Eventually, however, a large percentage of the cases reach a stage where they fail to respond to any form of treatment, but by proper use of the roentgen ray and taking the patients early in the disease, life can be prolonged for a period of from four to six years; they can be made much more comfortable and in some cases actual cures will result, extending over several years of time. If this can be accomplished by proper use of the roentgen ray, we feel that it is highly gratifying.

When Angiomata are exposed to the roentgen rays the endothelial lining of the arteries becomes very much swollen, producing an obliteration of the small arterioles, resulting in a diminution in the size of the growth and eventual disappearance. The treatment is painless, harmless and where properly applied very satisfactory.

The treatment of Spleno-medullary Leukemia should be used in conjunction with the medical treatment and should be checked up by weekly observation of the blood picture. A recent patient came for treatment with a white cell count of 280,800. Within a short time after treatment was instituted the white cell count was 75,000. At the end of another week it was 18,000. After intensive treatment of this condition the patient becomes toxic from the proteid thrown into the circulation by the destruction of the cells of the spleen. By watching the blood picture and the patient one can tell when this toxemia is beginning to appear. The treatment should then be discontinued until the patient fully recovers his equilibrium, when the treatment can be carried farther. The result in the patient mentioned above can be accomplished in practically every instance. The prognosis is more grave in the young than those more advanced in years, but in all cases life can be prolonged and the patient made more comfortable for a period of years. One should treat not only the region of the spleen but the long bones as well.

Of the malignant tumors, sarcomata respond more readily to massive doses of roentgenotherapy than do carcinomata. All types of sarcoma can be markedly improved except the periosteal and the myelogenous. It is useless to treat either of these types. The periosteal type should always be treated by amputation where at all possible and the myelogenous type is always fatal, no matter what method of treatment is used. Lympho-sarcomata respond more quickly than any other type. One must be constantly on guard, however, that metastases have not passed beyond the point where treatment is administered. A favorite site for lympho-sarcomata is in the mediastinal glands. In practically all of these cases the retroperitoneal glands have become involved before the patient seeks help. The retroperitoneal glands are much more difficult to reach by roentgenotherapy than the mediastinal glands, and spring up afresh at the first opportunity and take the patient beyond our reach. I have a number of patients with small round cell sarcomata who have been well for more than five years following roentgenotherapy. I have one patient who had a sarcoma of the right kidney as large as his head who was entirely relieved by roentgenotherapy and remained well for one year. At the end of the year a metastasis was found in the right lung. This was treated by roentgenotherapy and entirely disappeared. The child lived for six months afterward, when a recurrence in the kidney and adjacent structures caused his death by gradual asthenia. The percentage of recurrences where roentgenotherapy is employed in the treatment of sarcoma is no greater than where surgical treatment is employed. There is no operative mortality rate, all of the deaths being due to recurrence or metastasis. These patients should be kept under observation for at least one year, a series of treatments being given after apparent cure, one every three months during the first year, and the patient reporting once every six months thereafter for observation.

Carcinoma: One of the ideal fields for roentgenotherapy is that of small epitheliomata about the face. These can be successfully removed without scarring and if the treatment has been sufficient in amount, recurrences will be few in number. The squamous cell type of epithelioma responds much less readily to roentgenotherapy than the basal cell type, so that where one is treating the squamous cell type it is highly advisable to carry the treatment further than appears necessary. I give what appears to be sufficient treatment and then give an equal amount of treatment afterward, requesting the patient to return at frequent intervals for observation and to be sure and return at the first moment he notices any trouble.

I feel that all carcinomata which are operable other than the epitheliomata should be operated upon first and then roentgen treatment should be administered after operation. It is my feeling that the percentage of recurrences where this technique is employed will be much less than where either method of treatment is used alone.

There is a large field for roentgenotherapy in the inoperable carcinomata. Many of the patients come for roentgen treatment in a practically hopeless condition. By pushing the treatment to the limit, the disease will disappear to a remarkable extent. The patients will be free from pain and their lives will be prolonged for a considerable period of time. One of the most extensive cases which has come under my observation was that of a woman, 44 years of age, who had a carcinoma of both breasts, of the uterus and of the liver. Case No. 6626. She was unable to sleep or eat on account of pain and was bedfast when brought for treatment. We treated the whole torso, front, back and sides until her skin was tanned to a black walnut color. Both breasts became perfectly soft, all bleeding and discharge from the uterus ceased, although the uterus was still boggy, and the liver decreased in size until barely palpable. This patient is still well and doing her own housework three and one-half years after beginning treatment. I have been able to accomplish the same thing in many other less extensive cases.

Roentgen treatment of inoperable carcinoma of the bowel is thought by many to be of little value. In my hands, however, it has been of great help. All bleeding can usually be stopped and the pain will disappear. The patient will gain slightly and will live for a considerable period of time. One patient who had an inoperable carcinoma of the terminal ileum and head of the cecum, had a short circuit operation done to relieve the obstruction and then received intensive roentgen treatment. Case No. 6625. A year and a half after treatment she walked into the office looking fine, weighing twenty-five pounds more than she had when under observation and feeling perfectly well. No mass was palpable at the site of the original growth which was as large as the fetal head. This patient is still living and in comfort after nearly two and one-half years. If nothing more than that could be accomplished, we feel that the effort has been well repaid.

Leukoplakia: Although many authorities claim this disease is of syphilitic origin, it has never been my good fortune to observe a single case of this kind which did not sooner or later become carcinoma. In many of these patients there is a syphilitic infection as shown by the Wassermann test. These patients should receive anti-syphilitic treatment in conjunction with roentgenotherapy. Where massive doses of roentgenotherapy are employed, most of them will disappear. I recall one patient who had an extensive leukoplakia involving the inner side of the left cheek, extending over the gums on the upper and lower jaw directly on the anterior pillar of the pharnyx and over the tonsil. This patient was pronounced inoperable and recommended for roentgenotherapy. Under this treatment the growth completely disappeared and the patient has no sign of recurrence after two years and a half. There are some cases, however, which show marked diminution after treatment up to a certain point. Beyond this point, no matter how much roentgen treatment is employed, they fail to respond. It is our custom in these cases to use in conjunction with the roentgenotherapy, electro-thermic coagulation. By using a combination of the two methods the results have been very gratifying.

Case No. 8990—Mr. D. C. C., 56, married. January 1, 1918, his throat began to get sore. Three months later after consulting a local doctor, he was sent to Denver. Microscopical examination by Dr. D. C. Hill proved this to be round cell sarcoma. At the Presbyterian Hospital in Chicago, ligation of the carotid artery and radium was recommended. A physician at Kansas City advised him to do nothing. He now lives on liquids and soft food.

Examination: The entire pharnyx is filled with the growth which apparently arises from the right tonsil. The right submaxillary gland is involved. The throat is closed so he can speak only in muffled tones. He has difficulty in swallowing even liquids. The visible enlargement on the outside of the neck is as large as one's closed fist.

Results: The third day after treatment he walked into the office smiling and saying he had been able to eat griddle cakes for breakfast. After three series of treatment no evidence of the sarcoma remained and he is still well after six months.

Case No. 10485—Mr. J. G. B., 55, married. In November, 1918, he was operated upon by a surgeon who found extensive carcinoma of the pylorus extending up on the posterior surface. A gastro-enterostomy was done. Three months later he had pain and vomited blood.

Examination: A large mass in the right upper quadrant of the epigastrium.

Results: After three series of treatments his vomiting has entirely ceased and he is able to eat any kind of food he chooses without distress. He has gained twelve pounds, his anemia and cachexia have disappeared and there is no palpable mass in the abdominal wall. One can still feel resistance under the right rectus and X-Ray examination of the stomach shows a filling defect still present in the pyloric end of the stomach but the gastro-enterostomy opening functions nicely.

Case No. 6625—Mrs. H. E. N., 48 years. In November, 1915, she began to have pain in the right part of the abdomen. After the pain disappeared she was troubled with constipation. This continued until July 13, when she was operated upon. She was said to have cancer of the bowel which was grown to the blood vessel and could not be removed. They made a short circuit to relieve obstruction.

Diagnosis: Inoperable carcinoma in the right iliac region.

Results: One and one-half years after treatment she is feeling fine and has normal weight.

Case No. 6626—Mrs. F. H., 44 years. She weighs 90 pounds. Four years ago she noticed a lump in the right breast. July, 1915, she consulted a doctor who found trouble in both breasts. In 1915, she saw the Mayos who found cancer of the uterus, liver, and both breasts. She was referred for roentgenotherapy, coming December 13, 1915.

Results: She has had eighty-seven treatments, comprising fourteen series, covering the entire torso from the chin to the pubes-front, back and both sides. When she came she was bedfast and unable to eat or sleep because of the pain. Her pain disappeared, the uterine hemorrhage ceased, she gained weight, was able to sleep and eat anything she liked. She has been doing her own housework for more than one year. Both breasts are soft and the liver is barely palpable, while the uterus is still boggy.

Case No. 9985—Baby C. For several months the baby has had difficulty in breathing. Six weeks ago she had diphtheria which responded to antitoxin but since then breathing has been very difficult and is accompanied by cyanosis.

Examination: Area of dullness above the heart extending to the right and left three inches in diameter. Roentgenogram confirms above findings showing this area of dullness to be due to an enlarged thymus.

Treatment: She has had only three, one Dec. 16, 1918, one January 6, 1919, and one January 27, 1919.

Results: After the first treatment the dyspnea disappeared. After the third treatment roentgenogram showed the thymus had entirely disappeared. The baby is still well.

Discussion.

Dr. R. L. Smith, Lincoln.—I appreciated hearing this excellent paper of Dr. Tyler's. He certainly handles the field of Roentgen therapy from an impartial standpoint, and the things he tells us in his paper are possible, can be done and are being done right along.

Roentgenology, to my mind, is divided into two branches: The diagnostic and the treatment. I sometimes believe the treatment side of roentgenology is probably a larger field and possibly more useful than the diagnostic, although we must admit in every branch of medicine the diagnostic side has opened the eyes of every practitioner. There is practically no field exempt from a great deal of benefit in the diagnostic side. I might say in my lifetime, at least, I do not believe there is anything that has come to medicine with as much force and use as roentgenology; and nothing I know of that has been abused more than the X-ray in medicine. Medicine is being specialized highly in every branch, and even roentgenology itself is being subdivided until it seems to me it will be but a short time until each one of us will be doing only one thing, which calls to mind the necessity for closer co-operation than in the past.

The doctor spoke of the surgical and radium treatment as compared to the X-ray treatment. X-ray treatment or therapy or roentgenology offer us some things that cannot be had from surgery, from radium, or from any other method. The field I believe is a limited one, but the diseases that are well selected and treated properly offer more than can be offered in any other line.

Comparing the treatment of sarcomas from a surgical standpoint or X-ray standpoint, I believe the X-ray offers us much more than surgery in most of the cases. Surgical procedures, unless early enough to do a removal that is complete and before metatasis, which is an unusual thing, are useless procedures.

Dr. C. H. Ballard.—Dr. Tyler covered the subject admirably. I simply want to emphasize a few points.

Tubercular Glands: I see many cases going around—some operative and some not—that should certainly be treated by deep roentgen therapy. I do not believe the surgeons recognize its value as thoroughly as they should. Of course it is a new field, but even if they are removed surgically, this should be followed by deep roentgen treatment.

Keloids we have sent to us of considerable size, and some with a history of having been operated upon the second time, which we know is worse than useless. As soon as the surgeon sees a keloid developing in a scar, it should be sent to a roentgenologist for X-ray treatment. These invariably melt away, and you have almost a perfect scar left—the best result that can be obtained by any method.

Another point is carcinoma of the breast. The patient should have the chest X-rayed for a possible metastasis. If that is present, I believe surgery is not the method of choice.

I think we are going to come to treat more infections than in the past, especially streptococcus infections. There is evidence accumulating that X-ray therapy does much good in these cases.

To add to the field, I want to mention granuloma pyogenicum. I have treated two cases—one located on the side of the face, the lesion about the size of the end of my little finger. It is very typical. This case required only two treatments, the lesion disappeared entirely, and left practically no scar. The second case I had was a lesion almost the size of a half dollar on the side of the patient's neck. She was about sixty years of age. This projected a third of an inch from the skin surface, was round and had a dark center, which projected. This disappeared entirely after several treatments, with no scarring. If excised, you always have the scar left, and it requires a local or general anaesthetic, and can be much more easily removed by the roentgen therapy.

Dr. H. H. Everett, Lincoln.—Dr. Tyler is entirely too modest for an enthusiast in a specialty. He did not say half of what could be said for the X-ray in certain selective fields. The surgeon has, I believe, in the X-ray one of the most valuable aids in surgical procedure. In the field Dr. Tyler mentioned—that of tubercular glands of the neck—personally it has been five or six years since I have operated on a single case for this condition, no matter how big the gland itself, or how much involvement. There are cases where a gland will break down and you can do what might be termed an operation—simply aspirate off the broken-down tissue; but the X-ray will remove this infection in every instance.

Sarcomas of glands of the neck are another illustration. I have watched the work of men here and over the State and various other places where they have gone in and removed a sarcoma; and I have yet to see a veritably true sarcoma successfully removed and stay removed. I have seen case after case treated by the X-ray in which it has been gone three to six years. It is only within the last six years we have been able to get sufficient dosage. We used to get such small dosage it seemed to light up the infection.

A successful X-ray therapeutist must be a man of broad training generally in medicine; must be a well-balanced enthusiast, must have adequate apparatus, good judgment, and sufficient experience.

There was one thing Dr. Tyler didn't mention, and that was the use of the X-ray in heavy, massive dosage, in a condition which drives every physician nearly mad. That is the young woman from eighteen to forty who complains bitterly at each menstrual period, and has the whole family aroused and every doctor in the neighborhood exasperated, and has received no benefit whatever from dilation or curettements. The same treatment should be applied to her as is applied to your fibroid, but not so severe. It will give her a chance to get the nervous system back to a place where when it starts up again she will be able to handle it. She will enjoy life once more.

There was one particular bit of Dr. Tyler's paper which seems to me to be as bad advice as any man can give. That was in the treatment of fibroid, in which there is a question of a carcinoma being present. If there is enough suspicion to warrant curettement, don't do it unless you are going to get rid of your uterus and your glands. As far as the application of your X-ray and radium, I believe the statement is wrong and unwarranted. Dr. Kelly's recent report should be taken with a very large grain of salt. Kelly is an enthusiast whose statistics are not borne out by actual investigation of his cases. It is the same way with all the men who become over-enthusiastic. A carcinoma is either operable or inoperable. You can hold it back by X-ray treatment, but I do not believe you are justified in applying any procedure other than surgery in an early carcinoma of the uterus.

Dr. W. L. Ross, Omaha.—I enjoyed Dr. Tyler's paper and discussion, and will only speak briefly to a few points.

First as regards the technique which we know is quite recent, and perhaps we have not come to a standard condition. Before we had transformers that would deliver nine and a half, we used lighter filters and got a burning of the skin. I think the necessity of trying to protect the skin is gradually passing away. It is my experience to do away with cross firing and go directly after the object we are treating.

In the Journal of the New York Record of April 5, in an original paper by Irving, he says it has been established that malignancy is of local origin; second, the cancer cell starts out with an embryonic or youth period; goes from that rapidly into the adult period, as do all your cells, except the adult cell in the normal cell life has a function to perform under a longer period of time. There is a mysterious something—which I believe is the electrochemical element—has been changed, so that instead of having a normal cell, we have a carcinomatus cell, endowed with power to multiply rapidly; and it breaks up into two daughter cells. It does not even reach the senile period.

If you can stop that multiplication, which he says you can, and stop its ability to multiply, then you have stopped your cancerous growth. It has been demonstrated the X-ray will do it. Then we have a positive cure. Therefore let us make a plea for the earliest possible treatment of anything that has a semblance of cancer. The surgeon should keep hands off an early carcinoma, because if you can do away with the cancer, I make a plea for an early commencement of the treatment.

We have the malignant and benign types. In the uterine fibroids I made it a rule to reach the ovaries long before we knew anything about the X-ray. If we removed the ovaries and left the uterus alone, the fibroids would melt right down.

Dr. Tyler.—I thank the men who have discussed the paper for their interest.

I wish to correct an impression which Dr. Everett received from the paper—that I recommended the X-ray treatment for carcinoma of the uterus. I tried to say, "Keep hands off and return it to the surgeon, except the inoperable types." I would not advocate the treatment of operable forms of carcinoma by the X-ray, and I will not change until I am convinced I am wrong.

He spoke of these cases of painful menstruation. There are a number of different things the X-ray can be used for which I was unable to mention on account of lack of time. It will absolutely do just what Dr. Everett said it will, and I think it is worthy of use. I wish to express to the Doctor my appreciation of his interest in this subject, and assure him I will try to keep a sensible viewpoint.

Dr. Ballard spoke about treating infections. These respond very readily, as he says.

Another type is the carbuncle. One of the worst cases under my observation was a diabetic who had a carbuncle which involved the whole back of the neck up to the crown of the head and around on both sides to the ears. I told the attending physician I did not want to treat him. To my great astonishment, although I had to take a portable machine to the house, it began to clear up and the man is living and well today.

Dr. Smith spoke about the co-operation between the different specialties of medicine. I think the paper of Dr. Welch this morning, and the different talks made by our President and other members of the Society are evidences sufficient to show we are thinking along the same line; and I believe in the near future we will have great development in the co-operative practice of medicine.

Laboratory Work in a Base Hospital Center in the A. E. F.

Miles J. Breuer, M. D., Lincoln, Nebraska.

The Hospital Center at Allerey, Saone-et-Loire, of which Base Hospital 49 was a part, was typical of this class of institutions. It consisted of 12 sections, three of which were occupied by non-medical units, the engineers, the transportation section, and the convalescent camp. A varying number of the other sections, and at one time all of them, were occupied by Base Hospitals. The highest number of patients on record at one time in the Center, was approximately 20,000.

The laboratory work of all the hospitals in the Center was coordinated under one laboratory officer, who was directly under the commanding officer of the Center. A central laboratory, in connection with the post headquarters, combined the functions of a hospital and a public health laboratory, and performed added duties made necessary by war conditions. Unit laboratories, located in the sections along with individual Base Hospitals, performed local and routine work.

Unit Laboratories.

The unit laboratory of each section occupied a building between the Red Cross hut and the operating building, in the administrative block of the hospital. The building was divided into two rooms, one of which was a clinical laboratory and the other designed for a necropsy room. However, necropsies were performed only in every second section; the second room in other sections was used for various purposes, such as for storage of supplies or as an animal room for laboratory animals used in the Central laboratory.

The work was in charge of an officer selected from the personnel of that particular Base Hospital, subject to the approval of the chief laboratory officer. Enlisted men and nurses were supplied as technicians from the personnel of the Base Hospital, as the exigencies of the work required.

The work of the Unit laboratories consisted in urinalyses, blood counts, microscopical examinations of feces, sputum, and the simpler bacteriological tests required on the above specimens. Blood cultures were performed, except in the case of typhoid and meningitis, as this fell into the epidemiological function of the central laboratory.

A large proportion of the work of the unit laboratories consisted in the wound bacteriological work. Carrel counts on wounds performed in one of these laboratories, sometimes numbered into the hundreds every day. All wounds were cultured and the progress of the infection watched. The surgeon gauged his tactics by the bacteriological report. Anerobic or gas-forming organisms were simply identified as such by the unit laboratories, and cultures of them sent to the central laboratory for study and individual identification.

Central Laboratory.

The Central laboratory occupied a building a hundred feet long and twenty feet wide, with rooms as follows: office of laboratory officer, receiving room, two rooms for bacteriologic technic, serological room, media room, store-room. An additional room in the adjoining building was also pressed into service, and used for work in microscopic pathology.

The personnel consisted of four other officers besides the chief laboratory officer. Two of these were Nebraska men. One was in charge of epidemiological work, one in charge of general bacteriological work, one in charge of serology, and one in charge of pathology. Fourteen enlisted men did the technical work and ordinary labor required around the laboratory. French women were hired to wash apparatus and do unskilled work. During the busiest time, their number was six.

Specimens were sent to the central laboratory only through unit laboratories, and not directly from the wards; reports were rendered to the unit laboratories. Each specimen had to be accompanied by its proper form, on which the report was rendered. A messenger was sent out every day at 11 o'clock and at 4 o'clock with completed reports for the unit laboratories.

The epidemiological department performed all the diagnostic work on the meningitis and diphtheria epidemics which made one of the most important chapters of the history of that post. The diphtheria epidemic occurred at the time when the population of the Center was at its highest, and the amount of work done in making cultures from patients and suspects was enormous. Twelve and fifteen hundred cultures per day were made and examined with the epidemic at its height. A large number of blood cultures for typhoid fever were made, but only a comparatively small number of typhoid organisms were found. Bacteriological examination of drinking water once a week throughout the post was kept up through the entire period of operation of the laboratory.

The serological department performed complement fixation tests for syphilis, and handled the typing of pneumonias. About one hundred Wassermann tests each week were performed. Reagents were obtained from the Central A. E. F. Laboratory at Dijon, but the preparation of their own reagents was well under way when work closed in the Center. Guinea-pigs, sheep, and rabbits were kept in an adjacent section for this department. White mice were not obtainable in the A. E. F. for medical purposes, and were therefore not used in the pneumonia work.

A large amount of miscellaneous bacteriological work was carried out by the Central laboratory, consisting mainly of such procedures as were desired by the unit laboratories, but for which the latter were not equipped, or did not have time. Autogenous vaccines, the identification of anerobic or gas-forming wound organisms, and the testing of sterilizing methods used in the operating rooms, formed a considerable proportion of the work of this department.

All the necropsy work of the post was done through the central laboratory. On the death of a patient, notice was sent to the chief laboratory officer, and the necropsy performed by him or his assistant. A trained attendant and a stenographer were present at each necropsy. Histological sections of necropsy specimens were made at the central laboratory. Pathological specimens of interest were preserved, and sent to the Central A. E. F. Laboratory at Dijon, to be later sent to the United States for museum or teaching purposes.

The making of bacteriological culture media took all the time of two trained enlisted men. Most of the culture media used by the unit laboratories, as well as by the central laboratory, were made at the central laboratory. Special media, such as Loeffler's blood serum, laked blood agar, bile medium, etc., were made successfully.

All the laboratory supplies of the post were pooled under the directorship of the chief laboratory officer. He received them from the medical supply officer, and distributed them to the various laboratories as they were most needed. This proved an exceedingly efficient arrangement, especially in regard to Red Cross supplies brought along by various units. Had the laboratories been supplied individually, there would have been shortage in one place, and overstock with unnecessary material in another. The supplies were not always all that was to be desired. The staple stains and reagents were fortunately obtainable in sufficient quantities to permit of work being carried on. However, much ingenuity had to be made use of in substituting methods and materials, or devising new ones, in cases where proper supplies were not available. This was especially true in the case of apparatus, and much cleverness was displayed by both officers and enlisted men in devising and constructing apparatus from the crude materials available about the post; apparatus constructed included incubators, balances, sinks, necropsy tables, etc.

Records.

For some of the work, the Manual for the Medical Department of the Army prescribed forms and systems for keeping records. This is true in the case of the Wassermann tests, where the laboratory is required to keep a card index of the patients, showing all tests performed, and treatment used. A card index was used in the diphtheria work, for the reason that an atypical organism caused considerable confusion, and it was necessary to keep track of numbers of tests on each of several hundred patients. In the pathological work, complete records were kept of all the necropsies, and a card index was used with cross references, for the purpose of correlating post-mortem findings and clinical histories.

Obviously, much valuable material was gathered in this way. Data and conclusions on this work are being published by the individual workers in various places.

THE NEBRASKA STATE MEDICAL JOURNAL

Published monthly by The Nebraska State Medical Association.

J. M. Aikin, Managing Editor....Omaha

Committee on Journal and Publication.

F. A. Long, Chairman....Madison
W. O. Bridges....Omaha
B. F. Bailey....Lincoln
J. M. Aikin, Ex officio....Omaha

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Vol. IV. October, 1919. No. 10

Notice to Our Advertisers.

Our rates established in July, 1916, with the first issue of the Journal, have never been increased. We have paid the additional cost for paper, printing, postage, etc., pending the verification of establishing a creditable official organ for the Nebraska State Medical Association. That goal has been announced by the physicians in Nebraska and corroborated elsewhere, but the financial support has been inadequate for the necessary equipment and labor. To relieve that condition we have conferred with the management of other State Medical Association owned journals, thoughtfully considered all evidence, and decided that an advance in the rates on all new business, becoming effective January 1, 1920, is necessary to maintain what we have established and continue improvements. This statement is officially announced, with the proviso that all old advertisers who will renew their contracts before January 1, 1920, for 12 months period, shall be entitled to do so at the rates now in force.

F. A. Long, Chairman,
B. F. Bailey,
W. O. Bridges,
J. M. Aikin.

Third Survey of Hospitals.

The third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire the Association has collected a mass of information on the subject. Much of this material has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing first-hand information by which the data collected by the Association are being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in position to furnish a satisfactory intern training. The investigation is not limited to intern hospitals, however, but will cover all institutions and the data obtained will be useful in any future action which may be taken in classifying hospitals. The work in Nebraska is in charge of a committee of which Dr. Arthur D. Dunn, Professor of Medicine and Clinical Medicine, John A. Creighton Medical College, Omaha, is chairman, the other two members being Dr. Irving S. Cutter, Dean, University of Nebraska College of Medicine, Omaha, and Dr. J. S. Welch, Lincoln. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

State Hospital for the Tuberculous.

The Fourth Biennial Report of the Nebraska State Hospital for the Tuberculous, located at Kearney, Nebraska, has just been received.

The Superintendent, Doctor L. T. Sidwell, has had a great deal of experience in institutional work and is most desirous of having this hospital made more useful to the tuberculous of our state.

Although the hospital was originally established for the incipient cases, yet we have not gotten to the place where we recognize very many of such cases. If we could but get the cases moderately advanced, extremely gratifying results could be obtained.

There are twenty-three counties in our state that have never sent in a case. Can it be possible that tuberculosis does not exist in culous in our state.

There are twenty-one more counties that have only sent in one case each. Therefore, forty-four of our ninety-three counties have scarcely availed themselves of the opportunity of this most valuable institution.

For the past year there has been an average of about 100 cases treated daily at an expense per capita of $64.00 a month.

In all of the more thickly populated districts of the east, county hospitals have been established. In our own state, however, a single institution would be able to give ample care to all. The particular county should, however, pay a part of such maintenance. Should the patient be financially able to pay for a part of such treatment, there is no reason why they should not in their turn be allowed to do so.

Inasmuch as we are beginning to place more and more faith in the sanatorium care of the tuberculous, and have found that certain climates are not necessary for its proper treatment, this institution of ours should become more and more valuable.

Let every one make a concerted effort to find the tuberculous and send them into our State Hospital. We will then be able to show its need and convince future legislatures of the importance of making necessary additions.

Announcements and Notices.

The following was received from the United States Public Health Service. If you are interested, please address your answer to

Department of Public Welfare
Bureau of Public Health
State House, Lincoln, Neb.

In order to be prepared for the possible recurrence of influenza in epidemic form, the Bureau desires to have lists of physicians available for emergency duty in each state.

May I ask you to secure and forward to the Bureau a list of 100 physicians in your state who would be willing to serve under your direction in such an emergency.

The salary would be $200 per month, a per diem of $4.00 for subsistence, together with railroad fare. The Bureau would utilize these physicians in their own state and in so far as possible, in their own community.

An early reply will be appreciated.

The Fifty-third Annual Session of the Nebraska State Teachers' Association will be held at Omaha, Nebraska, November 5, 6 and 7, 1919.

The Northwestern Nebraska Medical Society will meet in Norfolk the third Tuesday in November. The meeting will be held at the State Hospital. The program will be devoted to the consideration of Mental Diseases. A large attendance of physicians from the northwestern part of the state is expected.

Some of the members of the St. Louis Medical Society have organized a section of that body called the Clinical Section of the St. Louis Medical Society, and have established a system of clinics to which members of our association are invited when they are in St. Louis. The advertisement appears in this issue under the heading "St. Louis Clinics." There is a large amount of clinical material in St. Louis which has never been organized, but now should afford splendid opportunities for physicians who desire to take advantage of the arrangement.

Government Wants Workers in Venereal Disease Campaign.

The recently created Interdepartmental Social Hygiene Board of the United States Government is in need of a number of specially trained men and women to complete its organization. The United States Civil Service Commission has announced examinations for the following positions: Chief of division for scientific research, $3,500 to $4,500 a year; chief of division of educational research and development, $3,500 to $4,500 a year; educational assistant, $2,800 to $3,600 a year; chief of division of relations with states, $3,500 to $4,500 a year; chief of division of records, information and planning, $3,500 to $4,500 a year; supervising assistant and inspector, $2,800 to $3,600 a year; field agent, $1,800 to $3,000 a year. All positions open to both men and women.

Applicants for these positions will not be given scholastic tests in an examination room but will be rated upon their education, experience and writings. Published writings of which the applicant is the author will be submitted with the application. For most of the positions a thesis on one of a number of given subjects will be accepted in lieu of published writings. The receipt of applications will close on November 4. Detailed information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board at the post office or customhouse in any of 3,000 cities.

The law creating the Interdepartmental Social Hygiene Board provides for the cooperation of the War and Navy Departments and the Public Health Service of the Treasury Department for the prevention, control and treatment of venereal disease. The duties of the Board as set forth in the act are (1) to recommend rules and regulations for the expenditure of moneys allotted to States for the use of their respective boards or departments of health in the prevention, control and treatment of venereal diseases; (2) to select universities, colleges, or other suitable institutions which shall receive allotments for scientific research for the purpose of discovering more effective medical measures for the prevention and treatment of venereal diseases; (3) to recommend such general measures as will promote correlation and efficiency in carrying out the purposes of the act; and (4) to direct the expenditure of certain moneys appropriated by the act.

Recent Medical Society Meetings.

The Mississippi Valley Conference on Tuberculosis—Seventh Session—met in Des Moines, Iowa, September 22, 23 and 24. There were 500 registered at the conference. It was an enthusiastic meeting. Perhaps the best attended part was the Demonstration clinics which attempted to bring out the most essential things in the Diagnosis of Tuberculosis.

The Medical Society of the Missouri Valley held their Home-Coming Meeting in Des Moines, Iowa, on September 18-19.

State Notes.

Dr. W. F. Wild, of the Department of Health, Lincoln, Nebraska, is leaving the state and has sent in the following: "Through the columns of the Journal I wish to say goodbye to the medical profession of the State of Nebraska and thank them for the hearty cooperation and good will extended to me during my term of office.

"I wish everybody good luck and with kindest regards to all, I am

Fraternally,
Wm. F. Wild."

Dr. M. S. Moore, of Gothenburg, has been discharged from the M. R. C., and has resumed practice.

Lieut. F. J. Stejskal of Crete, returned home and resumed his practice at that place Sept. 22nd. He has been stationed in Army General Hospital No. 20, at Whipple Barracks, Arizona, for the past eighteen months, doing special work in tuberculosis.

Dr. W. J. Kavan of Dorchester, has sold his home in that city and moved to Clarkson, Neb.

County Society Notes.

A meeting of the Saline County Medical Society was held at the Public Library building at Friend, Sept. 8th. It was called to order by the Secretary in the absence of the President. Dr. Pallett was elected President pro tem. Dr. Fred G. Vosika, who recently located in Crete was unanimously elected a member of the Saline County Society. He was formerly located at Ravenna, Buffalo County, and came into the society by a transfer from that county. Dr. Henry Hein, the President, appeared and took the chair. Seven papers were then read and discussed.

The Cedar, Dixon, Dakota, Thurston and Wayne Counties Medical Society held their semi-annual meeting in the K. C. Hall at Hartington, Oct. 9, 1919. Four papers were read and discussed, after which there was a banquet.

DEATHS.

Fletcher J. Farwell, Friend; St. Joseph Medical College, 1909; aged 49; died at his home on October 11th, from erysipelas.

Ira W. Porter, Omaha; University of Alabama School of Medicine, Mobile, Ala., 1892; aged 49; died in Omaha, October 6th, 1919.

Grove H. Rathbun, Fremont, Neb., University of Nebraska College of Medicine, 1902; aged 39; honorably discharged as captain, M. C. U. S. A., Dec. 23, 1918, died in the Clarkson Hospital, Omaha, September 4th, 1919, from sarcoma of the right ilium.

Brought Malaria Home.

London—Deaths of several soldiers shortly after return from overseas service, particularly in India, Palestine or Egypt, from what has been found to be a malignant form of malaria, has led to the issuance by the ministry of health of a cautionary notice. It warns the public against mistaking an attack of malaria for a variety of "heat wave" troubles, such as sunstroke. The germs of the disease were acquired in foreign lands.

New and Unofficial Remedies.

Novaspirin—A compound of anhydro-methylene-citric acid and salicylic acid. For a discussion of the actions and uses of Acid Derivatives of Salicylic Acid (Acetylsalicilic Acid Type), see New and Unofficial Remedies, 1919, p 250. The dose of novaspirin is 1 gm. several times daily. The Winthrop Chemical Co., New York City (Jour. A. M. A., Sept. 27, 1919, p 987).

The "missing link" has again been discovered. It is the stone skeleton of a man twelve feet seven inches in height. The report of the discovery brought several physicians and many scientists and a dozen professors from the University of Michigan who pronounced it the remains of prehistoric man and before the glacial period. The problem was, how it came to be at the particular place where it was discovered. Then some of the old residents of the town explained that many years ago a man by the name of Jimmy Leathers, an inmate of the prison at Jackson, finding time hanging heavy on his hands, chiseled statuary for pastime. Some of these old fathers remembered Jimmy's masterpiece and recognized it as soon as they saw "the missing link." Then the scientists and the professors went back to the University. "There are always some people to take the joy out of life."

A few weeks ago the Pennsylvania Bureau of Medical Education deprived a number of physicians from different parts of the state of their license to practice medicine because they had illegally and unnecessarily prescribed habit forming drugs. Others were suspended for the reason that they themselves were addicted to the use of the drugs. A law enacted by the Pennsylvania legislature in 1907 gave them the power. It will have a wholesome effect on the community. The doctor who illegally prescribes habit forming drugs is one of the most dangerous men in the community. We hope that the board will continue its good work.

CAT.

[illegible]

[illegible]

Th. Laennec

Private Library.
DR. C. E. HICKMAN.

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

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NEXT ANNUAL SESSION OMAHA, MAY 24-26, 1920.

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Laennec.

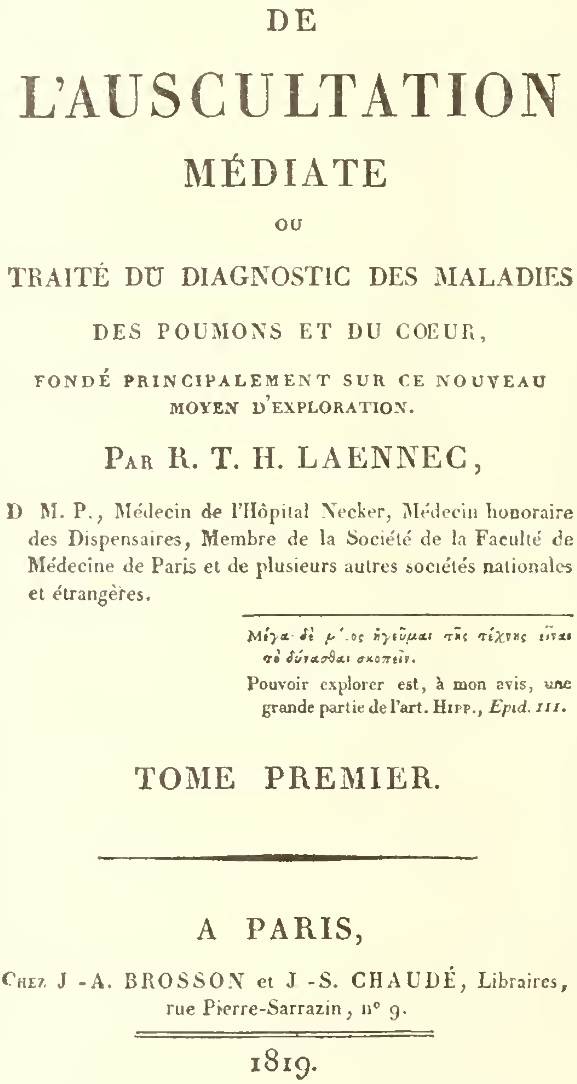
LeRoy Crummer, M. D., Omaha.

In September, 1819, Laennec published in Paris, "Mediate Auscultation, or a Treatise on the Diagnosis of Disease of the Lungs and Heart, based principally upon this new method of Examination." In this book, he announced the discovery of Mediate Auscultation in the following words:

"In 1816, I was consulted by a young woman laboring under general symptoms of diseased heart, and in whose case percussion and the application of the hand were of little avail on account of the great degree of fatness. The other method just mentioned being rendered inadmissible by the age and sex of the patient, I happened to recollect a simple and well known fact in acoustics, and fancied it might be turned to some use on the present occasion. The fact I allude to is the great distinctness with which we hear the scratch of a pin at one end of a piece of wood on applying our ear to the other. Immediately, on this suggestion, I rolled a quire of paper into a kind of cylinder and applied one end of it to the region of the heart and the other to my ear, and was not a little surprised and pleased to find that I could thereby perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear. From this moment, I imagined that the circumstance might furnish means of enabling us to ascertain the character, not only of the action of the heart, but of every species of sound produced by the motion of all the thoracic viscera and consequently for the exploration of the respiration, the voice, the rhonchus, and perhaps even the fluctuation of the fluid extravasated in the pleura or the pericardium. With conviction, I forthwith commenced at the Hospital Necker a series of observations from which I have been able to deduce a set of new signs of disease of the chest, for the most part certain, simple and prominent, and calculated, perhaps, to render the diagnosis of the diseases of the lungs, heart and pleura as decided and circumstantial as the indication furnished to the surgeons by the induction of the finger or sound in the complaints wherein these are used."

Thus quietly was announced one of the greatest discoveries in medical history. It is so dramatically simple as to be on a parity with the legend of Newton and the apple, and Watt and the steam kettle, and marked an epoch in medicine as great as either of these discoveries in science.

Laennec was born February 17, 1771, in Brittany. His mother died of pulmonary tuberculosis when he was five, which means as we now understand, that he had an infantile infection, which became active several times during his life, and caused his death in 1826. When 19, he went to Paris, where he was a pupil of Corvisart. Corvisart was an example of Napoleon's wonderful judgment in the selection of men who were to be near him, and was on the personal side of the Emperor what Larrey was on the military. He used his position near the throne to further medicine to the greatest extent, and not only had time to accumulate the best of previous medicine as shown by his insistence on the true Hippocratic doctrine, and his appreciation of Auenbrugger's work on percussion, which he reestablished in medicine, but he also realized the value of Laennec's work on auscultation and aided him in every way.



DE

L'AUSCULTATION

MÉDIATE

OU

TRAITÉ DU DIAGNOSTIC DES MALADIES

DES POUMONS ET DU COEUR,

FONDÉ PRINCIPALEMENT SUR CE NOUVEAU
MOYEN D'EXPLORATION.

PAR R. T. H. LAENNEC,

D M. P., Médecin de l'Hôpital Necker, Médecin honoraire des Dispensaires, Membre de la Société de la Faculté de Médecine de Paris et de plusieurs autres sociétés nationales et étrangères.

Μέγα δὲ μέρος ἡγεῦμαι τῆς τέχνης εἶναι τὸ δύνασθαι σκοπεῖν.

Pouvoir explorer est, à mon avis, une grande partie de l'art. HIPP., *Epid. III.*

TOME PREMIER.

A PARIS,

CHEZ J.-A. BROSSON et J.-S. CHAUDÉ, Libraires,
rue Pierre-Sarrazin, n° 9.

1819.

Fig. 1. Title page of the first edition of Laennec's work.

Laennec took his degree in 1804, and immediately became, as was then quite the custom, a voluminous contributor to the various medical encyclopedias and dictionaries, and was, at the same time, chief editor of the Journal of Medicine.

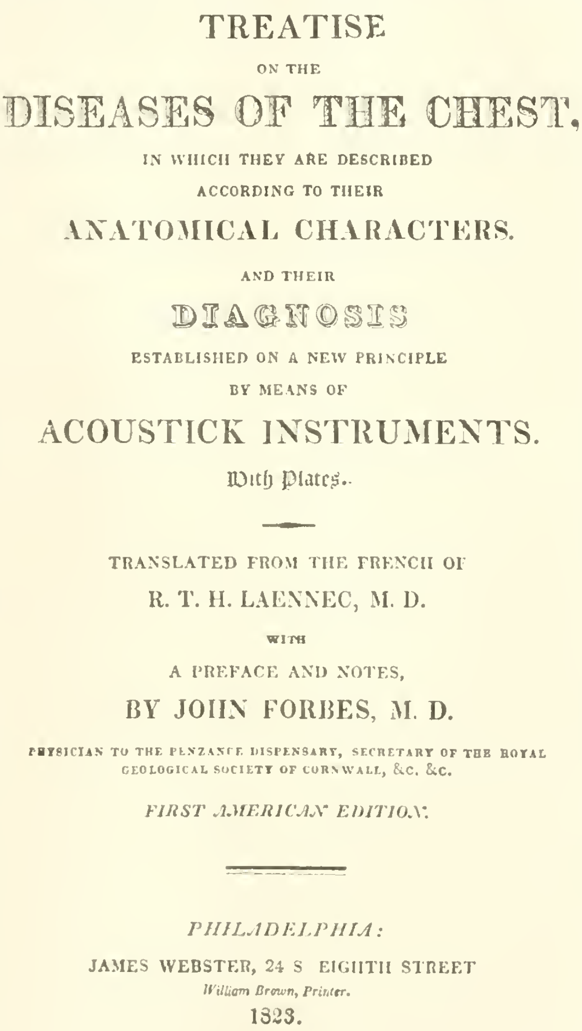
In 1816, he became physician to Necker Hospital and in 1822, he was appointed to the Chair of Medicine in the College of France, and the next year was made full Professor succeeding Corvisart.

Even before his discovery of auscultation, using the then known methods of examination, he was a wonderful clinician, and was practically the first internist to check his physical findings against pathological conditions as found at the post mortem. Without this most important discovery, he would have made a big impression upon medical history as a clinician and pathologist, and a worthy successor to Morgagni and Bichat, but the anniversary which brings us together tonight, is that of his great discovery, auscultation.

To gauge the importance of his work, one must compare the previous half century with the decades following to get even an idea of what auscultation meant to medicine.

The latter half of the 18th century was the age of systematists. Every philosopher tried to found a system which would or could explain ALL in medicine. Today, such a viewpoint seems impossible, and we look upon the sole survivor of the systematists, homeopathy, with a smile of tolerance, but Hahnemann and his system was only one—and not the greatest nor the worst—of a long procession of systematists. Hipprocrates escaped to a certain extent, but Galen was a systematist, pure and simple. Paracelsus, Sydenham and Harvey rose above by their power of observation, but in the main, medical literature had been for centuries for or against some system; so that, today, we can scarcely understand the language, to say nothing of the spirit of the controversies.

In the thirty years before Laennec; Cullen, Browne, Hahnemann, Mesmer, to mention only a few, had each founded a system and each system in turn became the center of a controversy. These controversies had particularly dominated Edinburgh, which, in the latter half of the 18th century had been the most prominent school. Just how much these bitter quarrels changed what "might have been" is impossible to estimate, but the Browne-Cullen disputation, the bitter Gregory-Bell feud certainly diminished the effectiveness of the work at Edinburgh.



TREATISE

ON THE

DISEASES OF THE CHEST,

IN WHICH THEY ARE DESCRIBED

ACCORDING TO THEIR

ANATOMICAL CHARACTERS.

AND THEIR

DIAGNOSIS

ESTABLISHED ON A NEW PRINCIPLE

BY MEANS OF

ACOUSTICK INSTRUMENTS.

With Plates.

TRANSLATED FROM THE FRENCH OF

R. T. H. LAENNEC, M. D.

WITH

A PREFACE AND NOTES,

BY JOHN FORBES, M. D.

PHYSICIAN TO THE PENZANCE DISPENSARY, SECRETARY OF THE ROYAL
GEOLOGICAL SOCIETY OF CORNWALL, &c. &c.

FIRST AMERICAN EDITION.

PHILADELPHIA:

JAMES WEBSTER, 24 S EIGHTH STREET

William Brown, Printer.

1823.

Fig. 2. Title page of the first American edition of Laennec's work.

At the pinnacle of success in Paris in the early years of the 19th century, was the systematist Broussais, who thought and taught, preached and argued, that all disease was due to irritation, of which enteritis was the chief cause. Broussais was great in medicine, but greater in controversy—a worthy antagonist—personally, and as a representative of the systematists, to be conquered only by the definite findings of the improved methods of Corvisart, Laennec and Louis. But while Broussais was building a system, twisting facts to fit his theory of enteritis, which still survives in some of the French literature, there was forming in Paris, the first friendly group of scientific observers: Corvisart, gentlemanly, polished, teacher, organizer, an intuitive diagnostician, made his clinic the center of medical instruction. Laennec, a pupil and friend, working in the same wards, discovered auscultation, which added to percussion, makes what is still the major part of the methods of diagnosis. After working several years checking his findings by the post mortem, he wrote his book, inventing a new terminology to fit the facts of his discovery, and anxious to teach his methods to the students who came flocking from all lands.

Next came Louis, who introduced the numerical system of medical study. He was a greater teacher than Laennec, but could scarcely have reached his greatness without Laennec's discovery. His numerical study of bleeding in pneumonia was the St. George that successfully conquered the triple dragon of the systematists, Broussais and bleeding. The combination of physical diagnosis, and the methods of Louis brought about a change in medical thought, and medical procedure throughout the world, and the decades that followed were marked by more medical discoveries founded on proper observation than any similar period in its history.

Each man for himself, had marked Edinburgh as a medical center, but the cordial relationship existing in Paris between Corvisart, Laennec, Louis, Andral and Chomel, was repeated soon, 1825-35, in the celebrated Guy's Hospital group: Bright, Addison and Hodgkin, for each of whom we have an eponymic disease.

Ten years later, we find the Dublin school at its zenith, with Stokes, Cheyne, Corrigan and Graves. These names call to mind the results of the keenest clinical observation. This group leads directly to Laennec, as

Stokes was one of his early students. At this time, we find the same influence animating Boston, through James Jackson, Jr., Henry I. Bowditch, Oliver Wendell Holmes, and many others, and Philadelphia through Gerhart, Stille, Biddle and Pepper. The celebrated Vienna school led by Skoda and Rokitansky, is also indirectly a tribute to Laennec. Skoda started to prove Laennec's results erroneous, and ended by proving him right in almost every particular.

After the first trial with a roll of paper, Laennec made his stethoscopes out of wood. Concerning the construction of the stethoscope, he says:

> "In consequence of these various experiments, I now employ a cylinder of wood, an inch and a half in diameter and a foot long, perforated longitudinally by a bore three lines wide, and hollowed out into a funnel shape to the depth of an inch and a half at one of the extremities. It is divided into two portions, partly for the convenience of carriage and partly to permit its being used of half the usual length. The instrument in this form—that is, with the funnel-shaped extremity—is used in exploring the respiration and rhonchus; when applied to the exploration of the heart and the voice, it is converted into a simple tube with thick sides by inserting into its excavated extremity a stopper or plug traversed by a small aperture and accurately adjusted to the excavation. This instrument I have denominated the stethoscope. The dimensions mentioned are not a matter of indifference. A greater diameter renders its exact application to certain parts of the chest impracticable; greater length renders its retention in exact apposition more difficult, and when shorter, it is not so easy to apply it to the axilla, while it exposes the physician too closely to the patient's breath, and besides, frequently obliges him to assume an inconvenient posture, a thing above all others to be avoided if we wish to observe accurately. The only case in which a shorter instrument is useful is where the patient is seated in bed or on a chair, the head or back of which is close to him; then it may be more convenient to employ the half-length instrument."

He is said to have whittled them by hand and to have embellished some of them with fanciful carving. Most of you are unfamiliar with the single-barreled stethoscope, but it is not a bad instrument, and has only been superseded by the binaural on account of its awkwardness, and not on account of its acoustic qualities, and can be used now to advantage to bring out certain sounds. Today, many of the leading clinics of England, France and Austria have not given up the wooden stethoscope.

His book published in 1819, met with immediate acceptance from the best qualified physicians, but many objections were made in various quarters, chiefly, strange to say, on the ground of lack of delicacy involved in the method of examination. It was revised, the plan changed, and re-issued in 1823, under the title, "A Treatise on the Diseases of the Chest, in which these are described according to their anatomical character and their diagnosis established on a new principle by means of acoustic instruments." This edition was translated into English by Forbes in the same year, and into German in 1839.

Stokes was but twenty-one when he returned to Britain from Laennec's clinic, but he immediately wrote "An Introduction to the Use of the Stethoscope" which was the popular introduction of this method.

Henry I. Bowditch, in America, wrote, "The Young Stethoscopist" in 1846. Flint, in 1876, gave out his "Manual of Percussion" which has been standard ever since. Skoda, 1839, gave us his work, "Uber Percussion" its preface typically German. This, as Flint's work, has gone through innumerable editions, and has been the standard for all subsequent books on diagnosis. Incidentally, even the latest books on diagnosis carry some of the errors of these early editions.

Piorry in 1828, invented mediate percussion, and the pleximeter, and with this, he tried to demonstrate a characteristic sound for every part of the human body. Nevertheless, his discovery came at a time when it fitted in and was of advantage to all the early students of physical diagnosis. Perhaps, the quick recognition of the great benefits of auscultation was because it furnished facts to be used in the feud which existed between Broussais and his followers, of whom Pinel is the only one now remembered, and Corvisart, Laennec and Louis, whose foundation belief was the Hippocratic concentration of observation. This feud gave rise to an acrimonious dispute, the prototype of which we have in our time in the famous Kuposi-Neuman quarrel in the Vienna Society of Skin Diseases. This feud must have stimulated Laennec to even greater scientific efforts, and he entered into these controversies ardently, but perhaps not as vindictively as his opponents.

Thus, the stethoscope not only gave us the method by which we have individually and collectively been able to enhance our diagnostic abilities, but it has also established principles of diagnosis the accuracy of which could not be gainsaid, and we find medicine emerging from a field of speculative philosophy where it had been bracketed for centuries with theology and law, and beginning an advance which we hope will result in making medicine a pure science.

Note—In connection with this paper, there were exhibited the following books, directly pertaining to Laennec and his period:

De L' Auscultation, Paris, 1819.

Treatise on Diseases of the Chest, Laennec. Translated by Forbes, 1823, Philadelphia.

Treatise on Diseases of the Chest, Laennec, 1835.

Treatise on Diseases of the Chest, German translation, 1839.

Recherches Sur Phthisis, 1825, Louis.

Phthisis, Louis, Cowan translation, Washington, 1836.

Introduction to the Use of the Stethoscope, Stokes, 1825, Edinburgh.

The Young Stethoscopist, Henry I. Bowditch, Boston, 1846.

A Manual of Percussion and Auscultation, Flint, 1876.

Die Mittlebare Percussion, Piorry, 1828. Translated by Balling.

Memoirs of Baron Larrey, 1861.

Heart and Great Vessel, Corvisart. English translation, Gates, Boston, 1812.

Percussion und Auskultation, Skoda, Vienna, 1839.

Diseases of the Chest, Gerhart, Philadelphia, 1836.

Cases of Apoplexy and Lethargy, Cheyne, 1812, London.

Desidibus et Causis Morborum, Morgagni, 1766.

Also portraits of Laennec, Corvisart, Larrey, Desault, Paracelsus, Bichat, Broussais, Louis, Dupuytren, Hahnemann and Morgagni.

Immunization Against Diphtheria.

J. H. Dillon, M. D., Lincoln.
Chief of Department of Health of the State of Nebraska.

Up to the present time, in spite of the use of antitoxin, the number of cases of diphtheria has been but slightly decreased. The lower death rate from the disease is due to the lessened mortality in the treated cases rather than to a decrease in the total number of cases. It is now possible to prevent the occurrence of the disease by rendering those individuals who are susceptible to it immune, just as effectively as typhoid fever is prevented by rendering the individual immune.

There are two kinds of immunity to a disease, passive and active. The former is that conferred on an individual by an agent similar to antidiphtheritic serum, and is due to the antitoxin it contains. It is not the result of the production of antibodies within the blood of the individual, and after the immunity is produced, this antitoxin is gradually eliminated. It is of short duration, but possesses the advantage of a ready, quick immunity.

On the other hand, an active immunity is developed as the result of changes in the blood of the individual with the formation of antibodies, lasts for a much longer period of time, and requires a considerable period of time for its development. Active immunity against diphtheria usually requires from two weeks to two months for development after the injection of the toxin to produce it, but when once developed, the immunity lasts for several years.

About fifty per cent of a given population, the percentage varying with the age of the individuals, have a natural immunity to diphtheria. Those individuals not possessing a natural immunity may be readily determined by means of the Schick test, material for which may be obtained through regular channels of supply, and is manufactured by most of the manufacturers of standard biological products. The test is made as follows:

Minute dilutions of the diphtheria toxin are injected into the skin, not beneath it, using a small sized needle, and injecting about two minims of the diluted toxin, the site usually selected for the injection being the skin on the outside of the arm. If the individual does not possess a natural immunity to the disease, i. e., has no antibodies already present in the blood, a positive reaction will appear in from twenty-four to forty-eight hours, and is characterized by a red area with slight infiltration about one or two centimeters in diameter, the reaction lasting for several days. It is produced by the irritation caused by the injected toxins in the individual possessing no antitoxin to neutralize them.

Those individuals showing a positive Schick reaction should be immunized by giving a dose of diphtheria toxin antitoxin subcutaneously, material for which may be obtained through regular channels, and is supplied by the manufacturers of standard biological products.

With this diphtheria toxin antitoxin, it is possible to render both a passive and an active immunity in the individual with an injection of a single dose, and afford absolute protection against the disease.

CAT.

Dupuytren and His Contemporaries.

A. F. Jonas, M. D., Omaha.

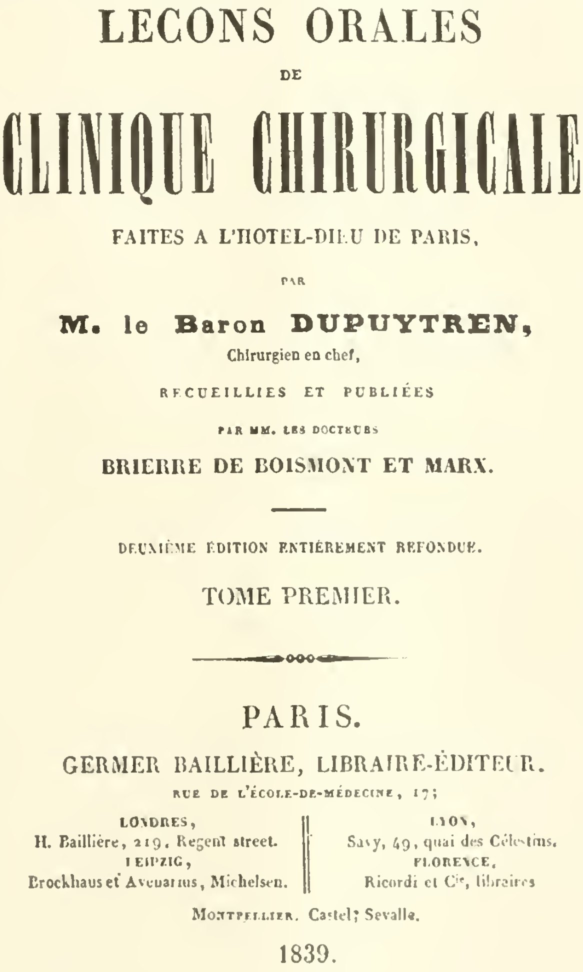
It is well to tarry occasionally in our restless search for the new and the novel and look backwards to review and take note of what the pioneers in medicine and surgery were and what they have done. In our modern methods of research we too often overlook the fact that men almost forgotten were the pathfinders and established fundamentals upon which the modern structure of medicine and surgery has been reared. We have elaborated and refined and constructed a superstructure, but the original foundations are still there more firm and have become enduring for all time. The history of our science and of medicine is overflowing with scientific facts which are now almost forgotten, accounting for so many new discoveries that were discovered long ago. Therefore it may be well to recall and consider some of the more conspicuous figures in the various branches of medicine, who occupied prominent positions in their time.

It has been decided by your programme committee to study the achievements of Laennec whose original studies in auscultation were revolutionary and fundamental. We find that he was born in Brittany in the year 1771 and died of pulmonary tuberculosis in 1826. Auenbrugger von Auenburg was born at Gratz, Styria, 1722 and died at Vienna May 17, 1809. He was the originator of percussion. Your committee suggested that the writer select a French surgeon, a contemporary of the men referred to. Immediately it became apparent that the task would be no easy one. Between the dates of 1722, the birth of Auenbrugger and 1822, the year in which the career of Laennec ended, was a century of time. Many great Frenchmen came and went during that time leaving their imprint on the history of medicine. The task became more difficult when we found that many of the most illustrious of French surgeons wrote little, their publications were few and far between, particularly in the latter part of the 18th and the early part of the 19th centuries. However there are many names that were famous. The author, in order not to prolong this paper to an inordinate length, decided to select one of the better known, whose name is not unfamiliar to the modern student. There was Phillip Jos. Pelletan, who was surgeon-in-chief of the Hotel Dieu in Paris. He was a great instructor. At 26 years of age he had become a celebrated teacher. For more than 30 years his eloquence made him without a peer among his fellows; a member of the Institute and Secretary of the Royal Academy, but he wrote little. He had an immense reputation as a surgeon and teacher and yet was soon forgotten after he passed away.

M. Civiale is another whose name was in the public eye as a surgeon, who was sought after, trusted and honored by his profession and the laity. Now his name is only known to students of surgical history who seek to give credit to the pioneer. He made French surgery glorious in his time by the invention of lithotrity—he successfully crushed intravesical stones in forty-three cases. In spite of the fact that the academy recognized and endorsed this work, a jealous profession sought to discredit him.

Another was Antoine Dubois, born 1766, Professor in the College of Surgery 1790. He was both obstetrician and surgeon as were many of the men of his time. He attended Empress Maria Louisa at the birth of her son in 1811. In that day as in this, the public honored him for his "nobleness of soul, the independence of character and frankness of disposition," associated with these distinguishing qualities, he possessed talent of the highest order as a surgeon. In spite of this great popularity as a teacher and practitioner his name is found only in the literature of his time.

Chassaignac, a name now seldom seen or heard, deserves to be indelibly fixed in our surgical annals for he it was who first discovered the importance of drainage in suppurative conditions. He occupied himself with the development and perfection of tracheotomy.



LECONS ORALES

DE

CLINIQUE CHIRURGICALE

FAITES A L'HOTEL-DIEU DE PARIS,

PAR

M. le Baron DUPUYTREN,

Chirurgien en chef,

RECUEILLIES ET PUBLIÉES

PAR MM. LES DOCTEURS

BRIERRE DE BOISMONT ET MARX.

DEUXIÈME ÉDITION ENTIÈREMENT REFONDUE.

TOME PREMIER.

PARIS.

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1839.

Title page of the second edition of Dupuytren's work.

And we considered the name of Pravaz, Jean Charles Theodore Pravaz, born at Lyons, became an orthopedic surgeon, distinguished himself by the introduction of subcutaneous medication and invented the hypodermic syringe, but he was hardly a contemporary of Laennec.

After a survey of a large number of names of surgeons of the memorable period in French history, immediately before, during, and after the revolution, when France threw off the fetters of an autocratic government and entered a period of relative freedom, it was found that the name of no surgeon was better known, nor more exalted than that of Dupuytren. Guillaunec Dupuytren was born in 1777, at Pierre Buffiere, obtained his medical education at the Ecole de Medicine of Paris. His chief study was surgical pathology. At the age of 18 years he was made instructor. In 1803 he became assistant surgeon at the Hotel Dieu and in 1811 Professor of Operative Surgery. In 1815 he was chosen professor of clinical surgery, and now made surgeon in chief at the Hotel Dieu. This institution is the most ancient of its kind in Paris. It was founded in 660 A. D., under Clovis. It is not only the oldest in Paris, but in Europe. It has been rebuilt several times and in its present form contains 840 beds. There are two chairs of Medicine and Surgery, and at all times during its existence the ambition of medical men in Paris has been to become a member of its staff and to be its chief surgeon was considered the goal of all Frenchmen who practiced the surgical art. It has at all times given the occupant not only a commanding and influential position but he has been an object of envy. When Dupuytren was advanced to this exalted seat, he became the master, almost the dictator, not only of this venerable institution, but of French surgery. Besides his extensive hospital and clinical duties, he had an enormous private practice. He is said to have amassed a fortune of 4,000,000 francs ($800,000), a great fortune for those days. At his death he left 200,000 francs to the faculty of medicine. This sum was used for the foundation of the Musee Dupuytren of Pathological Anatomy. It has been the writer's pleasure to visit this museum several times. Dupuytren's own personal collection is carefully cared for to this day, and is being added to constantly from the Ecole de Medicine. Dupuytren was a tireless worker and possessed astonishing energy. With all his large private practice he visited the Hotel Dieu twice a day, doing one or more operations at each visit. What a fine example for some of us who do not find time to do public as well as private work. Dupuytren's clinics which were held several times a week were thronged by students and surgeons from all parts of the world who were drawn to Paris by the fame of his teaching. His contributions to surgery were many. He introduced a classification of burns, described echinococcus cysts of bone; noted the presence of rice bodies in enlarged tendinous bursae; described senile gangrene. He called attention to the disastrous effects of the entrance of air into the large veins; he described traumatic aneurysm and varicose aneurysms. He was the first French surgeon to ligate the larger arteries; he drew a definite distinction between nervous delirium and delirium tremens. He laid down a definite distinction in the diagnosis of fractures and dislocation of the humerus. He described fractures especially callus formation. His name is especially associated with the contraction of the palmar fascia which is known as Dupuytren's contraction. He devised an operation for resection of the lower jaw and also proposed an effective operation for ingrowing toenail. While he wrote little himself, his lectures were recorded by his students and published by a society of physicians under the title "Lecons Orales De Clinique Chirurgical Faites a l'Hotel Dieu de Paris," in four volumes, 1830 and 1834. They were translated into several foreign languages. He also wrote works on theoretical and practical treatment of war injuries and another on a new and practical operation for stone. So much for his original professional achievements.

One of his biographies hints that it had been said of him that he was "an unsociable companion, that he strives for surgical omnipotence, that his manners have the overbearing of a stern and despotic severity" but that he "had talent" and that "he is a diplomatist capable of securing to his merit a worthy recompense." The same biographer (J. L. H. Peisse) credits him with being a surgeon of "most exalted merit," and that he does not know that he has a rival in France. The public gave him that rank. He avers that the "professor of the Hotel Dieu is of the highest surgical reputation in France." It is doubtful if this is true today. The occupants of these high positions of recent years have sometimes been men rather advanced in years who have their most productive and useful periods behind them.

Dupuytren was considered "particularly remarkable for his singular foresight." "He observed with attention, but rapidly, very rarely undecided he judges with promptitude." "And at the bedside all his five senses are all awake; in a few minutes of questions and researches, his examination was finished." "One might often believe that he has given to the case only a superficial attention but his subsequent lecture will prove that he has seen everything and seen it thoroughly." Few physicians interrogated a patient with such intelligence and pertinacity. It was said of him that "he rarely deceived himself." Was he never mistaken? In the light of modern medicine we must accept such an opinion with reserve. Some of his contemporaries insisted, and with good reason, that he was sometimes mistaken and the modern surgeon would insist that he must have been very often in error, but popular opinion had it that his judgment was unfailing. He was accused of having operated for stone when there was no stone which his competitors repeated with gusto. It was said of him that "his ambition for superiority, so jealous, that he manifests the utmost care to conceal not only important errors but the most trifling inexactions." In spite of these accusations by his confreres it was admitted "that very few surgeons have given proof of so much surgical genius in the invention of modes of operating or so much expertness in their execution." He was credited with a "presence of mind that is never shaken, and a tranquil assurance that is never disturbed." "Accidents the most unexpected never disconcerted him." "When the operation was done he gave the reasons for what he had done with as much precision as if he had deliberately weighed and elaborated thereon in the silence of his cabinet." He performed all of his operations with dexterity and rapidity which was common among surgeons of his time. The absence of anesthesia local or general necessitated rapidity. Anesthesia was not known until 1846. The deliberate surgeon could not be a successful practitioner. Manual dexerity and agility of movement were of prime importance, particularly at the Hotel Dieu where there was no lack of rivals. At the Hotel Dieu he succeeded the brilliant teacher Pellatan. Before Pellatan, Desault had occupied the same position and he had added great lustre to the chair. Dupuytren was not unmindful of the task before him. His success was immediate. There was no clinical course in France that compared to his. A clinical lecture in surgery is difficult; the teacher must continuously speak without preparation, because his material cannot be regulated by himself in advance, and is more or less dependent on chance. He has a large and critical audience which expects much and he must satisfy all. Dupuytren fulfilled expectations. He was a voluble, fluent, comprehensive and extemporaneous speaker. He possessed a remarkable fund of information relating to all departments of medicine and surgery. He was an excellent medical practitioner, which enhanced his worth as a teacher of surgery. He was possessed of an excellent memory enabling him at all times to make himself clear to the inexperienced student as well as the advanced surgeon by the citation of authorities and the elucidation of simple as well as complex subjects. His discourses are said to have been free from vulgarity and his diction was almost faultless. He is praised for his faculty of adapting his instruction to the capacities of his pupils. Peisse did not hesitate to say "that the clinic of Dupuytren may be offered as a model of this kind of instruction."

The Hotel Dieu was a frequent object for criticism by less favored members of the profession, thus we are told that "this clinic, so brilliant on many accounts, so profitable to students from its abundant sources of instruction, is a school which ought not to be implicitly trusted, for truth is there not always respected. There as elsewhere mistakes are committed, but they are not spoken of, if they are acknowledged, it is only when some bold and successful stroke may retrieve and redeem them." Again we find "who has ever heard within that enclosure a living professor cited whether for good or for evil." "If there is an instance of well defined success all the trumpets of the hospital and of the Journals ring with it." There is much more of the same kind of criticism but this is intended to show that human jealousies have not changed. We might add a few more sentences to indicate that the men of the times did not hesitate to express themselves in print. It was said that the Hotel Dieu is not a school; it is a government. There are few subordinate ministers and a single chief. The ampitheatre is not a simple gymnasium, destined to familiar conference; it is a divan which men, more or less abased, listen in silence to the words which the master deigns to utter. This subjection of minds and wills of many to the mind and will of one, is painful to witness when it exists. There are in the halls of this hospital, habits of genuflexion, of silence and of mystery, which call to mind the Seraglio; one speaks only to the chief when he interrogates. A direct question made to the master would be considered a temerity, of which there are few examples. All shrink before him. Men even when talents and honorable labor have been made his colleagues in the instruction and service of the hospital, diminished, abject or rather annihilated by his ascendency are not able, spite of themselves to maintain a footing of equality, which such men ought to preserve among themselves."

We will follow this side of the situation no further. It is sufficient for this sketch. The position of chief surgeon in the Hotel Dieu is and always has been a difficult one to fill. He who could maintain himself to the end of his usefulness was not only fortunate but of extraordinary ability. Dupuytren met all the conditions. His talents outweighed all his defects and his name has come down to us as one of France's most illustrious surgeons.

Happily times and conditions have changed the advancement of surgical science since those illustrious days. We have few shrines now which enjoy the exclusive privilege of a supreme oracle. Scientific knowledge has been brought almost to our very doors, all may partake if they are so inclined. And yet we cannot but honor those who have gone before. We must pay reverence to the pathfinders who labored under restrictions, of which perhaps they were not aware. They were indeed courageous who entered unexplored fields and grappled with conditions that were obscure.

History of Omaha-Douglas County Medical Society—Background.*

A. B. Somers, M. D., Omaha.

When asked to write a history of our medical society I considered my task an easy one and immediately went to the Secretary's office to be confronted with this statement on the cover of his oldest record book: "Records previous to Jan. 12, 1897, destroyed by fire in the office of secretary Henry B. Wilson." Early history and tradition is always interesting, so with this fact confronting me I set about seeing what might be learned about the first seven years of the Society's existence. In looking this matter up I came upon a bit of interesting Medical Society history remotely connected with this society which I will introduce briefly.

In May, 1881, a few men organized a Medical Society to which they later gave the name of Omaha Academy of Medicine and Surgery. They held weekly meetings. They had a membership consisting of seven names as follows: Joseph Neville, Paul Grossman, R. M. Stone, L. A. Merriam, H. W. Hyde, L. B. Grady, John D. Peabody. The secretary, L. A. Merriam, makes this rather significant statement in his records: "Several of the physicians of Omaha were invited to join us but thus far we number only seven." However they started into their second year with a banquet and later added the names of Drs. Swetman and Durham, making a total of nine members. They had twelve meetings during the second year with an average attendance of three or four, and finally the society came to an untimely end from inanition during its infancy in April, 1883. In a toast at their banquet, Dr. Grossman referred to Dr. Merriam as "The mother of the society, as he conceived and brought it forth." All the members of this society, so far as I can learn, have passed into the otherwhere excepting Dr. Merriam, who remains in a badly disabled condition. So far as I can learn this was the first and only effort to establish a medical society previous to our own.

Coming more directly to our own society, I find an old program of the Omaha Medical Club which states the club was organized January, 1889.

There was no constitution or by-laws, the only rule being that every member should write a paper when called on. The meetings were held in the office of the essayist. Tradition says that the first meeting was in response to an invitation to a number of physicians by Dr. Jonas to meet in his office and talk over the organization of a medical society. So Dr. Jonas was the author and original promoter of the Omaha Medical Club, which became the sponser and pattern promoter of the Omaha Medical Society. They met bi-monthly for ten months in the year and the first year's program gives twenty names of essayists with dates of meetings. This program is exceedingly interesting. These meetings continued until the club had out-grown its accommodations in doctors' offices and the Omaha Medical Society was organized.

About this same time the defunct academy of Medicine and Surgery, previously referred to was resuscitated in the office of Dr. D. C. Bryant and pursued a somewhat parallel, and in a degree, antagonistic course to the Medical Club.

This later society subsequently became the nucleus of the Creighton Medical College. The leading members of the Omaha Medical Club being connected with the Omaha Medical College. On March 25, 1890, the members came together in a meeting at the Paxton hotel and organized the Omaha Medical Society, elected Dr. W. F. Milroy, president; Dr. Chas. Rosewater, secretary, and Dr. S. K. Spalding, treasurer.

A committee was appointed to draft a constitution and by-laws and the society started out with the following list of charter members, forty-two in number, with a cordial invitation to all physicians in Douglas county to join:

Drs. B. C. Anderson, L. Bacon, C. M. G. Biart, D. C. Bryant, W. O. Bridges, H. L. Burrell, B. F. Crummer, E. W. Chase, H. Cook, W. A. Cook, J. C. Denise, A. W. Edmiston, H. Gifford, C. Gapen, R. Gilmore, W. S. Gibbs, C. P. Harrigan, H. P. Hamilton, H. P. Jensen, A. F. Jonas, M. H. Jonas, J. C. Jones, L. J. Kohnstamm, P. S. Leisenring, J. P. Lord, W. F. Milroy, L. A. Merriam, J. Neville, A. A. Parker, A. Raymond, M. A. Rebert, M. O. Rickeets, A. W. Riley, C. Rosewater, A. B. Somers, S. K. Spalding, J. E. Summers, Jr., S. R. Towne, H. C. VanGieson, W. P. Wilcox, G. P. Wilkinson and E. E. Womersley.

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*Read at the Omaha-Douglas County Medical Society, Sept. 23, 1919.

These facts regarding the organization of this society were obtained from the Omaha Clinic for April, 1890. So far as I can learn the Omaha Clinic was the first Medical Journal published in the state and is the predecessor of and continues as our present State Medical Journal.·

Only fifteen of the original forty-two members live in Omaha at the present time. So far as my knowledge extends only one of the twenty-seven absent members, Dr. D. C. Bryant, is alive. Our present membership is 280.

I make the following extract from Dr. Rosewater's record of this meeting:

"On the 25th of March, 1890, a meeting of the regular physicians of Omaha was called for the purpose of organizing a County Medical Society. In the history of Omaha several such societies have come into existence and again passed away, owing to the lack of cooperation on the part of their members and the breaking out of petty feuds and jealousies. The profession of Omaha has, however, come to the conclusion that this city and county ought to be represented by a good, live society, one that will make itself heard and felt, and will be a credit to its members and the entire profession of this community. Profiting by the experience of the past, it was unanimously decided to forget all personal feelings, whether of jealousy or animosity, and by serving shoulder to shoulder advance medical science, disseminate knowledge and secure good medical legislation."

Beginning with Dr. Chas. Rosewater I find a list of secretaries as follows: 1891-2, Geo. Wilkinson; 1892-3, no record; 1893-4, Chas. C. Allison; 1894-5, Dr. Meta Helfritz Jonas; 1895-6, no record; 1896-7, Henry B. Wilson; 1897-8, R. M. Stone; 1898-07, J. M. Aikin; 1907-10, Chas. O. Rich; 1910-14, Robert Hollister; 1914-19, Roy A. Dodge.

There is no record of presidents during the years that the minutes were lost, but we changed presidents every year so that during the thirty years since our society was organized thirty physicians must have served in that capacity.

In 1893 in compliance with the regulations of the American Medical Association, we adopted a new constitution and by-laws and changed the name from Omaha Medical Society, to Omaha-Douglas County Medical Society, since which time the only way of admission to the State Medical Association, and American Medical Association is through the county unit. All details regarding the society from Jan. 12, 1897, may be obtained from the secretary's office.

While searching for history I came across the third annual announcement of the Omaha Medical College. Out of a faculty of fifteen only three, Dr. A. S. V. Mansfield, Ashland; W. S. Gibbs and Ewing Brown of Omaha, remain to this day.

I also learned that the following physicians now living came to Omaha on dates as follows:

Dr. George Tilden, 1868; Dr. W. S. Gibbs, 1879; Drs. S. A. Merriam and J. B. Ralph, 1881; Dr. J. C. Davis, 1882; Drs. W. O. Bridges and Ewing Brown, 1883; Drs. W. F. Milroy and Gertrude Cuscaden, 1884; Dr. J. E. Summers, 1885; Drs. H. Gifford and Charles Rosewater, 1886; Drs. A. F. Jonas and A. B. Somers, 1887; Drs. Robt. Gilmore and W. L. Ross; 1887; Drs. S. R. Towne and J. P. Lord, 1888; Dr. Joseph M. Aikin, 1889.

So far as my knowledge extends these are all the physicians now living in Omaha that came here previous to 1890.

A Series of Interesting Accident Cases.*

Chester H. Waters, M. D., Omaha, Neb.

(1) Stab wound of abdomen with multiple intestinal perforations and extrusion of intestine. (Recovery).

(2) Stab wound of abdomen with completely divided bowel and extrusion of 4 feet of small intestine. (Recovery).

(3) Stab wound of abdomen with extrusion of stomach and transverse colon without intra-abdominal injury. (Recovery).

(4) Gun shot injury of abdomen with multiple intestinal perforations. (Recovery).

(5) Gunshot injury to chest, diaphragm and spleen. Splenectomy. (Recovery).

(6) Gunshot injury of thorax with extrusion of entire stomach and laceration of Spleen. Splenectomy. (Recovery).

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*Read before Botna Valley Medical Association, Atlantic, Ia., Sept. 11th, 1919.

(7) Gunshot injury of liver and kidney. (Recovery).

Case I.—Fred F., 49, laborer. On Nov. 30, 1918, this man received a stab wound of the left side of the abdomen through the middle of the rectus muscle just below the umbilicus. When seen, one-half hour after injury, a loop of small intestine 3 inches long was protruding through a small stab wound, about one inch in length. The protruding loop, which showed two perforations, was thoroughly irrigated with saline and the perforations sutured. The stab wound was then enlarged to permit of search for further injury. Two more perforations were found about 10 inches proximal to the two previously mentioned. Abdomen closed and tube drainage obtained through a small counter incision in the left part of the hypogastrium. On the third day the abdomen became enormously distended with a pulse rate of 160, accompanied by copious fecal vomiting. The abdomen was stuped and soon a profuse fecal discharge issued through the drainage wound, followed by practically complete disappearance of the distension. The vomiting promptly ceased and was followed by marked improvement in the general condition. The fecal fistula remained open for 3 weeks, closing spontaneously, and convalescence thereafter was uneventful.

Undoubtedly, in this instance, a small perforation of the descending colon was overlooked. This caused a localized peritonitis which, in turn, was promptly cared for by the drainage instituted in anticipation of just such an event.

Case II.—James B., 35, laborer. On April 13, 1919, he received a stab wound of the left side of the abdomen severing the rectus transversely at a point midway between the umbilicus and symphysis. When first seen a mass of extruded small intestine some four feet in length overlay the abdomen. He stated that after being stabbed, he walked a block, holding up the intestines to keep them from running down his trouser leg. The intestines were carefully irrigated with saline, and it was then found that the bowel at one point was completely severed and the adjoining mesentery lacerated. From this latter active hemorrhage was in progress. All of the extruded intestines were markedly congested and the lymphatics stood out prominently as white threads. End-to-end suture of severed bowel. Ligation of vessels in lacerated mesentery and suture of rent. No other injury noted. Tube drainage in left side of the hypogastric region through small counter incision. Margin of wound in abdominal wall swabbed with iodine, followed by closure with tier suture. There was practically no post-operative disturbance and the drainage tube was removed in 48 hours. Primary healing of wound. Returned to work 3 weeks after injury.

Case III.—Louis M., 25 years old, laborer. On June 16, 1919, received a transverse incised wound, 3½ inches long, in mid-epigrastrium. During respiration or straining a portion of transverse colon and lower border of stomach protruded through abdominal incision. Examination showed each rectus and its sheath to have been severed approximately half of its width. The incised wound was slightly enlarged to permit of careful examination of the viscera. No injuries were found—not even a scratch of the visceral peritoneum!

The wound was then sutured carefully in layers with small rubber tissue drain inserted at one angle of wound.

There was no post-operative disturbance, and drainage discontinued in 36 hours. Wound healed per primum, and patient left the hospital in 10 days.

Case IV.—Harvey K., aged 36, colored laborer. On August 8, 1919, this man was shot in left hypochondrium, the bullet entering 2 inches below costal margin. Operation begun within ¾ of an hour following injury. Opening the abdomen through the left rectus muscle a moderate amount of blood was found in the peritoneal cavity. The first intestinal injury encountered was a perforation of the transverse colon at its mesenteric border which lay immediately under the perforation of abdominal wall. From this perforation there was a small amount of fecal leakage. This was closed with a purse-string suture and further covered with mesentery. In the immediate vicinity, two more through and through perforations were found in the small intestines, making 5 perforations in all. The course of the bullet was downward and passed out of the peritoneal cavity at the base of the mesentery of the sigmoid at the brim of the pelvis. At this point a hematoma of considerable size was evacuated by enlarging the opening in the mesentery and controlling bleeding by a number of sutures. The bullet had passed into the psoas muscle and no further search was made for it. No further injury to small intestines was found, though the entire length from duodenum to ileo-cecal valve was examined inch by inch. Abdomen drained by means of split tube through counter incision in left side of the hypogastrium leading from region where bullet passed out of peritoneal cavity at base of mesosigmoid. Abdominal incision closed by tier suture. On the third day signs and symptoms of a post-operative pneumonia ensued—pleurisy, bloody sputum, temperature of 102, pulse 120 and lower lobe of right lung showed consolidation. Defervesced by lysis and left hospital on Sept. 1, 1919, the 24th day after operation. Abdominal incision healed per primam.

Case V.—John R. (colored), aged 33. On August 7, 1919, this man received a gun-shot wound of left thorax. The bullet entered just below the apex of the heart. Examination showed moderate shock. No bloody sputum; moderate tenderness and some dullness in left flank with some rigidity. The point of most marked tenderness was found postero-laterally over the 10th rib, in posterior axillary line. This finding suggested probable impaction of the bullet against the rib, and also indicated the course of the bullet. With the lack of definite findings of intra-abdominal injury the patient was watched closely for a period of 2 hours. No blood found on urinalysis. At the end of two hours the area of dullness in left flank had perceptibly increased and the rigidity was more definite. A tentative diagnosis of perforation of cardiac end of stomach and possible injury to spleen was made and an operation decided upon. Opening the abdomen through a high left rectus incision a considerable amount of frothy blood was found, but nothing suggestive of gastric contents. When the cardiac end of stomach was pulled away from under surface of diaphragm there was an immediate rush of air into the left thorax through a bullet hole in the diaphragm. This was promptly covered with a gauze pack and the stomach examined for injury. Strangely, not even a scratch of the peritoneum was found! The spleen was next examined and found very adherent to diaphragm and with lacerated wound at its lower pole. On the outer surface of the spleen—lying between it and the ribs—the bullet was discovered, having been stopped by impact against one of the latter. Dense adhesions about the spleen were separated with difficulty. Spleen removed after doubly ligating the pedicle en masse. Imbedded in the spleen was an inch square of cloth, carried to this point by the bullet! In order to control oozing from the subdiaphragmatic space a large gauze pack was left in this region, one end passing through a counter incision below costal margin in mid-axillary line. This was removed 36 hours later with the aid of a few whiffs of chloroform. A rather stormy period followed, with severe coughing and profuse expectoration, and a temperature ranging daily to 102 with a pulse of 130 and respirations 36. Physical findings of a marked pneumothorax. On the eleventh day chest aspiration obtained bloody fluid which showed bacilli in great numbers. Two days later thoracentesis showed definitely purulent material. At once rib-resection was performed under local anaesthesia evacuating fully two quarts of pus. Marked general improvement followed and he left the hospital on about the 25th day following his injury. The abdominal incision opened up superficially as the result of his strenuous cough, but has entirely healed at this date. There is still slight drainage from his thoracotomy incision, but in other respects he is getting around quite comfortably.

Case VI.—Harold M., aged 15, schoolboy (Presented before Omaha-Douglas County Medical Society Sept. 30, 1919. (To be reported in full in Journal American Med. Association.) On Oct. 30, 1918, this lad received an extensive thoracic wound due to the discharge of a shot-gun, when the muzzle was practically in contact with the chest wall. An enormous defect resulted which extended from mid-clavicular to the posterior-axillary line and three ribs wide. When first seen the entire stomach protruded through this hole in chest wall and was held there by the jagged ends of the ribs. The lad was in considerable shock and was at once given ½ gr. of morphine and taken to the hospital. Operation was begun approximately ¾ of an hour after injury. The eviscerated stomach was thoroughly irrigated with saline and as no injury to the wall was noted, it was replaced in the abdominal cavity. The diaphragmatic tear then exposed was 3½ inches long. The left lung had entirely collapsed and the chest cavity contained considerable clotted blood, fragments of ribs and clothing, all of which were carefully removed and the chest cavity irrigated. It was then found that a portion of the outer margin of the lower lobe had been shot away. The heart was easily felt in its retracted position under the sternum. The inner extent of the thoracic injury came just below and to outer side of the normal situation of the cardiac apex.

Suture of the diaphragm was then started, when blood was noticed issuing from the abdominal cavity. Investigation showed that the spleen had been completely torn in two, and its diaphragmatic surface extensively lacerated as well. An attempt to reach the splenic pedicle through the tear in the diaphragm was unsuccessful; so after suture of the diaphragm the abdomen was opened through a left rectus incision. The peritoneal cavity contained about a quart of free blood. Splenectomy after doubly ligating the pedicle. A gauze pack was inserted into sub-diaphragmatic space to control bleeding and was removed 36 hours later under light anaesthesia.

The thoracic defect was closed with difficulty and with flaps under considerable tension. The post-operative course was quite favorable until the 10th day, when a marked increase in afternoon temperature appeared. Aspiration of a suspicious area in left chest posteriorly resulted in finding pus. Rib-resection under local anaesthesia performed at once and a localized pocket of pus containing a solitary buck-shot was found. Immediate improvement in general condition resulted. Considerable superficial sloughing of the flaps closing thoracic defect caused delay in healing. However, the lad was back in school 2½ months after the injury. Six months from the time of injury wounds were entirely healed, and today he is an unusually strong, robust boy and doing hard manual labor. There is no scoliosis and the left chest has completely filled out.

Case VII.—Louis M., aged 35. Switchman. This man was shot September 15th, 1919, the bullet entering just above costal margin on right side, about 3½ inches from mid-line. No wound of exit was found. A point of tenderness noted in right lumbar region. Rigidity and dullness present in right hypochondrium. Operation was begun ¾ of an hour after injury. Abdomen opened through right rectus incision. Considerable free blood found. The bullet in its course passed through the right lobe of liver emerging well posteriorly on its under surface and entered the right kidney in its upper half near its hilum. No intestinal injury found. Access to retrorenal region obtained by splitting parietal peritoneum along outer border of kidney. It was then found that the bullet had passed through the kidney and into the lumbar muscles, and no further search was made for it. The retro-peritoneal space about the kidney was drained by means of a split rubber tube through a small counter-incision in the flank. A second split tube was left in upper angle of the abdominal incision leading to under surface of liver. In this instance drains were used solely for the purpose of taking care of continued oozing from the injured tissues, being withdrawn gradually and entirely discontinued on the 5th day.

The post-operative course was perfectly smooth. Bloody drainage quite profuse in first 48 hours. Blood in urine gradually disappeared and, when the patient left the hospital on the 11th day, it was perfectly clear. The abdominal incision healed per primam. He has been getting around actively without discomfort of any kind, since the 14th day after his injury.

Some Points in the Etiology and Pathology of Cancer.*

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We have been led to believe that four things are necessary that we may call a neoplasm cancer.

First—It invades surrounding tissues.

Second—It tends to recur after removal.

Third—It forms metastasis.

Fourth—It produces a toxic substance causing cachexia.

The first implies the uncontrolled tendency to grow, the breaking down of basement membrane, the anarchy of the individual cell which dominates its life and makes it a danger to surrounding cells. This is the most important point in regard to cancer; lawless, unrestrained, uncontrolled multiplication of cells with or without a certain amount of function, with or without a certain amount of differentiation.

Some cancer cells are highly differentiated and highly functionating as in the case of malignant adenoma of the thyroid in which the structure of the thyroid is exactly reproduced in the new growth and in the metastatic growths, and which contains the thyroid secretion. Under the microscope this neoplasm looks like normal thyroid yet it grows very rapidly and kills the patient. Tendency to unrestrained growth then, and formation of metastasis, is the only thing which stamps this tumor as malignant. The invading of surrounding tissue by unrestrained growth is sufficient to classify the process as malignant.

Tumors may recur locally after removal and not fulfill all the other requirements; as basal cell carcinoma. It is true it invades surrounding tissue but it does not form metastasis and of itself probably does not produce any toxic substance which causes cachexia. Its principal claim to malignancy is its tendency to recur after operation. The same thing is true of certain sarcomas of the jaw. These tumors do occasionally form metastasis and do invade surrounding tissue but their principal claim to malignancy is tendency to recurrence after operation.

Glioma and certain forms of angioma may also be considered in this class. Keloid is the only tumor which shows a definite tendency to recurrence after operation that is not to be classed as malignant but keloid occasionally does become cancerous.

In the class of tumor in which the formation of metastasis is the distinguishing and deadly feature first place should be given to chorion-epithelioma. In these tumors metastasis may take place in the lung with fatal hemorrhage in as short a time as four weeks from the inception of the tumor as counted from the placental delivery. Next in this class comes melanoma, commonly called melano-sarcoma, which may produce death by metastasis without any considerable change in the primary mole. I have known the liver at post mortem to be practically entirely replaced with melanotic tissue five months after the first signs of the malignancy, scabbing and bleeding, appeared in the parent mole the size of a shoe button.

Another class of tumor which should be mentioned but as very rare is fibroid of the uterus which occasionally takes on a form of malignancy which exhibits itself only in the formation of distant metastasis, the metastatic nodules found, for instance, in the lung; showing the same structure under the microscope as the parent tumor.

In considering the fourth qualification for malignancy the production of a toxic substance the discussion could be carried to almost any length. The essence of the matter probably is that while every tumor, benign and malignant, carries with it and feeds into the circulation some poison, no tumor produces such a poison as an entity or as a separate individual distinguishing thing. The tumor tissue is always low grade in resistance; poorly nourished, as while blood may be available, nerves are lacking, and lymph drainage is poor or absent with metabolism much below that of the normal tissues; leading down through the many forms of degeneration to actual necrosis. In addition to the low grade life in the tumor we nearly always have associated a low grade infectious process feeding on the tumor which produces poisons and alters the picture according to the combination of infecting micro-organisms. Squamous cell carcinoma being hard and tough is poorly supplied with blood or strangles out a large part of its blood supply, therefore it grows without great bulk but with a good deal of breaking down and infection so that here we find the greatest amount of cachexia. Next we find glandular carcinoma but softer, carrying more blood vessels, simply an adenoma gone wild; the cells being in such close relation to the blood vessels that we get much metastasis in these cases through the blood stream instead of through the lymph stream; and growing in larger masses without producing the same cachexia. Lastly in the malignant tumors we find the sarcomata and hypernephroma growing to enormous size before producing much cachexia because well nourished and growing in places well removed from sources of infection. In so-called benign tumors we get a good deal of generalized toxemia and every tumor, even a simple goiter, poisons the patient to a greater or lesser degree. (As goiter is an adenoma and toxic goiter a life destroying adenoma I do not think it unreasonable to consider simple goiter a benign tumor and exopthalmic goiter a malignant tumor.) A large fibroid may cause more cachexia than a smaller sarcoma or hypernephroma.

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As the existence and persistence of any one of the four points named excepting the recurrence in the case of keloid, will eventually kill the patient, I feel that we should not require that all these things be present in a case before it is called cancer. Any tumor presenting any one or more of these characteristics, lawless growth, recurrence, metastasis or cachexia should be considered cancer no matter what the microscopic picture may be or the tissues involved.

Every tumor is composed of at least two kinds of tissue representing the parenchyma and the stroma, the varying proportions of these elements giving the different pictures which we call sarcoma, carcinoma, etc. There are as few pure tumor strains as there are pure breeds of animals. Most of our tumors are mongrels involving not one but many kinds of tissue. This probably means that the exciting cause operates in one case over a very limited area causing proliferation of a few cells of one type and in another case the exciting cause may be more diffuse, operating over an area involving several types of cells. The fact that connective tissue always grows with the epithelial cells in carcinoma seems to suggest that both cells have been stimulated to grow by a common cause and this common cause may have produced the overgrowth in the tissues as a regenerative or reparative process.

It is generally conceded that irritation is the thing that produces cancer. Many kinds of irritation have been held responsible; heat, cold, chemicals, light rays, X-rays and mechanical trauma. In the mouth, lips and tongue we find cancer developing where jagged teeth or bad plates furnish trauma, particularly where the poisonous effect of tobacco helps to weaken and destroy cells. A low grade infected ulcer precedes the development of the cancer, low grade infection being present constantly from the start of the process. The insults to the tissue from teeth, the tobacco poison or the heat is repeated at intervals so that complete regeneration never takes place between insults and the micro-organisms constantly irritate the cells. In the esophagus there are three narrow points and at the narrowest of these, the one most subjected to trauma we find most of our cases of cancer of the esophagus. The neoplasm does not develop in the tightest part of the narrowed tube but just proximal to the narrow point. This holds true of cancer all along the alimentary tract with the exception of the narrowing at the ileo-cecal valve. Here the cancer area is distal to the narrow point or in the head of the large gut.

The stomach is the most common seat of cancer in the body and the origin of most cancers of the stomach are in the two or three inches before the pylorus, showing the effect of trauma. However here we find another element entering into the equation, the presence of acid. This combination of a strong acid, mechanical narrowing and consequent trauma gives us the most evil combination possible for the production of cancer as it opens up the way for micro-organisms which continually irritate the constantly insulted tissues. The normal stomach should contain acid about six hours a day. The tissues cannot stand to be constantly bathed in acid or to have acid present for any abnormal period of time or in excessive quantity. Pavloff has shown that any irritant along the gastro-intestinal tract, in the gall bladder or appendix for instance, will cause an excessive flow of acid in the stomach. The same thing is true if irritating things such as pus, tobacco juice, etc., are swallowed. We find then in the tobacco user who has pus teeth and pus tonsils an ideal combination for the development of hyperacidity, ulcer and subsequently cancer. It will be remembered that the saliva in the dirty mouth cases is generally acid and though this is weak it probably acts with trauma as a predisposing cause in producing cancer of the lips, mouth and esophagus as well as acting as an irritant in the stomach. The most highly cancerous area then, the pyloric end of the stomach presents the greatest combination of contributing causes of cancer and the things which I consider the exciting cause, infective material; micro-organisms. The two inches of gut just past the pylorus is more free from cancer than any part of the body so here in a space of four inches in the alimentary tract we have the two extremes. The area most subject to cancer and the area least subject to cancer. On the distal side of the pylorus we find conditions exactly opposite to the proximal side. Here is strongly alkaline reaction and little trauma. Ulceration is frequent here but apparently in the cases where the pylorus can close and protect the ulcer from the harsh biting acid of the stomach between meals the alkaline reaction protects the ulcer from cancerous degeneration. The ulcer which progresses across the line into the stomach or originates in the stomach is the one which being massaged by the stomach muscles and bathed in acid by a too acid stomach is most likely to develop into cancer. Gastro enterostomy cures ulcer by neutralizing the acid of the stomach by the duodenal secretions. This operation probably does a good deal toward preventing cancer of the stomach. In the stomach area the trauma and the acid are both on the same side, proximal to the sphincter but in the ileo-cecal junction the trauma is on the proximal side and acid is on the distal side so acid being a more potent contributing cause we find most of the cancers developing in this locality on the distal side, and very very rarely such pathology on the proximal side. The rectum again brings a combination of acid reaction and trauma with invading micro-organisms and here again we find a prolific cancer area.

Another area in which normally we find acid and alkaline reaction with a sphincter between is the female genital tract. The vagina is acid and contains germs. The uterus is alkaline and is sterile. As long as this relation is undisturbed no disease develops. When lacerations of the cervix allow infection to get in from below and the tear serves to evert the os so that the columnar cells lining the lower cervix are thrown into the acid secretions of the vagina then the acid secretions and the irritating discharge from the endometritis always coexistant with cervical and perineal laceration serves to destroy cells at the point where the cells are the weakest and the stress is the greatest. This is at the junction of the squamous cells of the vaginal portion of the cervix and the columnar cells lining the cervical canal. Efforts of repair are made by both kinds of epithelium so that here we usually get a mixed type of cancer. As the mucous membrane in the cervix is laid directly on the muscle, the glands even penetrating the muscle, the malignant process quickly invades the muscle and is stimulated by the muscular movements to grow, the contractions of the muscle serve to disengage particles which transplant themselves very early in the process into the lymph glands. (This same condition is present in the tongue except that the muscular action here is pronounced and consequently the metastasis more early and more deadly). Cancer of the body of the uterus is an entirely different disease clinically, as it grows in the glands of mucous membrane which is separated from the muscle by a considerable thickness of connective tissue. This connective tissue protects the muscular wall from invasion until the cancerous mass may have attained considerable bulk. Most cases of cancer of the body of the uterus occur in women who have not born children and may be explained on a basis of chronic infection, endometritis. The next most common seat of cancer is the female breast. Infection may gain access to the area by acute infection, mastitis, chronic infection, Paget's disease; following the milk duct in from the diseased nipple or by micro-organisms circulating in the blood and filtering out at a point of low resistance, that is a point at which an injury has been received. The stimulation of the invading micro-organisms probably leads at first to the glandular overgrowth called adenoma. In other words adenoma is an early stage of cancer of the breast. An almost identical picture is presented in cancer of the prostate gland in which the process may be traced through the different stages of hyperplasia, adenoma and cancer. In breast cancer the trauma is usually one insult to the tissues, not repeated insults as in the case of cancer of the lip or stomach, but here the anatomical arrangement is such that lymph drainage is interfered with and the tissues by this stagnation, reduced in vitality to a point where low grade infection may exist with just enough life to serve as irritants to the epithelial cells. In sarcoma the history of one severe trauma is common but as sarcoma occasionally exists in anatomical locations where trauma is impossible we must consider that for some reason a point of low resistance exists, (possibly misplaced tissue cells consequently poorly nourished and innervated, e. g., hypernephroma), and the area made the seat of hematogenous infection. In the work incident to the war it has been found that in the healing of old infected wounds micro-organisms become embedded and encysted in the scar so that operative procedures months after healing will lead to a lighting up of the original infection. This is the type of low grade chronic infection which I believe to be the immediate and exciting cause of cancer. all other so-called causes such as trauma, heat, cold, chemicals, etc., being contributing or predisposing causes merely serving to reduce the vitality of the tissues to a point where they will harbor but cannot kill the invading germs. In some cases trauma is most prominent, in some chemical irritation, in others heat, etc., but the element that is present in every case is low grade infection. Cancer grows often in scars where there has been chronic infection and slow healing. It never grows in the scar of a wound that has healed by first intention. In the former germs exist, in the primary healing they are absent.

As a matter of comparison the localities most affected and the contributing causes might be presented as follows:

	Infection	Trauma	Chemical Irritation	Heat	Cold
Stomach	*	*	*	*	*
Lip	*	*	*	*	*
Esophagus	*	*		*	
Rectum	*	*			
Breast	*	*			
Cervix	*		*		
Body of Uterus	*				

The element of cold has not been sufficiently emphasized as a predisposing cause of cancer. Epithelioma on the ears and hands from frost bite is common. Anything that reduces the vitality of the tissues locally or as a whole makes a better field for the growth of germs and results of their irritation, cancer. This is of particular significance in cancer of the stomach. Loading a diseased ulcerated stomach with ices, ice cream and cold drinks undoubtedly lowers the resistance of the tissues and makes in the invaded area a better field for the growth of germs.

Heat on the other hand, unless it is excessive, tends to promote healing and raises local resistance against germ life.

In the method of spreading to adjoining lymph glands and to distant parts of the body cancer follows closely the infectious processes. In an infection the germs are carried for a long time into the glands and killed by the gland until the gland is no longer able to take care of the situation when the germs live and grow and set up a new focus for further advancement of the trouble. In cancer thousands of particles are probably carried into the surrounding glands and killed before some finally are successfully transplanted and grow. It must be remembered that the particle of cancer material floating in a lymph or blood vessel is a totally disengaged thing. It has no vascular connections and no nerves. It is a particle of foreign material and must acquire a source of nourishment before it can grow. So the microscopic picture occasionally seen of a gland shot through with small cancer masses does not mean anything more than that a fight is going on in which either side may win. This process of transplantion is the only means by which cancer is carried outside its immediate locality; and is active externally as well as internally. A person with a cancer may transplant it by means of his finger nails to different parts of his own body. Cancer may be carried by surgical instruments as the stitch cancer which is seen at times after cancer operations. I believe the most common cause of recurrence after operation is contamination of the wound with cancer material carried on fingers or instruments and transplanted into the wound. These transplants grow more readily than transplants into a gland because the traumatism has lessened the resistance and the tissues do not possess the reactive mechanism against invasion possessed by the lymph gland.

All tissues possess some reaction against cancer as against infection. The microscope always shows a wall of round celled infitration at the margin of the growth which is nature's protective mechanism. Anything which reduces the vitality of the tissues locally or the health generally will increase the rapidity of invasion. Traumatism is the most active agency in the dissemination of cancer. A cancer of the breast which is severely bumped or injured quickly kills the patient by extension and metastasis. It is absolutely hopeless from the time of the injury. In this connection I wish to mention biopsy, "taking a piece out for the microscope." In a cancer case where this is done the growth is stimulated by the traumatism, the protective wall is broken through allowing local extension and flooding the lymph and blood vessels with cancer cells which are carried to distant parts. Scraping the surface as is done in cancer of the body of the uterus is not so dangerous as the protective wall in advance of the cancer mass is not broken down. Cutting part of the wall out of an appendicial abscess and allowing the pus free access to the peritoneal cavity would be just as logical as cutting out part of the wall of a cancer area and allowing the cancer cells access to the whole body. The great mistake in teaching in the past has been to put too much emphasis on the microscopic picture. The sin of biopsy is not the only sin to be credited to the microscope as many lives have been lost because the microscope showed the picture of a benign tumor when the lapse of time proved the thing to be malignant. It should be used only to examine tissue post operative or post mortem. Clinically cancer can be and should be diagnosed without the aid of the microscope. If we remember that any tumor that forms and invades surrounding tissue is cancer, that any tumor that recurs after operation is cancer, that any tumor that causes metastasis is cancer and that any tumor that causes cachexia is cancer then we have taken a great step forward in the cancer problem.

In conclusion:

First: One or more of the four points above mentioned justifies the diagnosis of cancer.

Second: Cancer is easily transplanted in the same person. Failure by surgeons to grasp this fact is the cause of many recurrences after operation.

Third: Cancer is caused by the irritation of micro-organisms in tissue where the vitality has been reduced by trauma, heat, cold. acid, etc.

Fourth: Biopsy should never be done.

Fifth: The microscope is not to be relied on, except as one point in the evidence; usually to help to confirm a diagnosis already made.

Post Influenzal Pulmonary Complications Simulating Tuberculosis.

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There appears to be a general impression that the recent epidemic of influenza has resulted in a great deal of pulmonary tuberculosis. That a great number of these cases do have pulmonary lesions goes without saying, but except for a few they are erroneously considered tuberculous.

The tuberculosis cases in a large general hospital where I was stationed were in a ward by themselves. When the capacity of the hospital became taxed because of the rapid influx of "flu" cases all the tuberculous patients were further congregated and part of their ward used for the epidemic cases. Although there were thirty or more of them thus surrounded and with ample opportunity for infection there was not a single case developed amongst them.

A little later I was tranferred to a tuberculosis hospital and when the second phase of the epidemic came the same condition was noted. Only two or three mild cases occurred amongst 700 tuberculous patients, whereas in 150 healthy corps men there were twenty to twenty-five cases with high incidence of pneumonia and high mortality.

The tuberculous patient seemed to have more or less of a constant immunity against the pneumococcus and streptococcus which were the secondary infecting agents in most of the cases studied.

In a contingent of troops just arriving from their homes many cases of sickness broke out en route. These were immediately isolated in their barracks. The first day showed 190 reported at sick call. The number gradually diminished until only seven reported on the seventh day after arrival. On the eighth day, however, there were forty cases of pneumonia discovered and sent to the hospital and on the ninth day thirty-four more.

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It was on the tenth day after their arrival in camp that I had the opportunity, with a group of medical officers, of surveying the remaining sick ones—458 cases in all. Observing that, as the incidence of new cases diminished the incidence of pneumonia increased, we determined to examine only those who had a temperature above 99.5° or those who were apparently very ill. As a result of the first day's work thirty-seven cases of pneumonia, one case of otitis media, and one case of scarlet fever were found.

The second day we proceeded in the same manner except that we sought out those who had a subnormal temperature as well. We were thus able to find twenty-seven cases presenting sufficient physical signs to be called pneumonia.

On the third day every remaining man was examined and twelve more cases of pneumonia were found. This made a total of seventy-six cases of pneumonia on the tenth to twelfth day of the disease. Almost without exception these were the ones who had had a second elevation of temperature after the original sickness.

There were two wards in the hospital where specially prepared officers were making careful physical and roentgenological examinations in order to make a detailed report of the epidemic. Twenty of these cases were received into these wards and the diagnosis of pneumonia was verified in all but one case. The fifty-six remaining cases were distributed evenly throughout the rest of the wards and only twenty-four or 41% were diagnosed as pneumonia.

In other words the usual picture of dullness, bronchial breathing and other signs of consolidation were not commonly present and there seemed to be the greatest reluctance about diagnosing pneumonia without them, whereas we had found that true crepitant rales with distant high pitched whispered pectoriloquy with or without other percussion or auscultatory changes were the early and constant findings.

This is certainly conclusive evidence that the percentage of pulmonary lesions was very much greater than has been assumed.

There seemed to be quite a variation in the type of lung involvement during the different stages of the epidemic in the same camp and variations also at the various locations. This was, no doubt, due to the prevailing microorganism at the particular time or place that acted as a secondary infecting agent.

The first and most aggravated forms presented patchy broncho-pneumonia in any or all lobes of the lung which later became confluent. The pleura was not involved in the least in the inflammation. As a consequence those that recovered showed showers of fine indeterminate rales that persisted for various periods at times for weeks or even months.

It is the location of these rales that make them suspicious of tuberculosis. We made a rule in our work that lesions existing below the middle of the chest were non tuberculous unless they could be proven so. So that if these rales were only in the bases and not associated with lesions extending downward from the apices they were decidedly not tuberculous.

Conversely when there was a persistence of findings above the middle of the chest they should be considered tuberculous until they could be proven otherwise. Although I believe that acute or subacute infections do exist in the apices yet they are decidedly uncommon and one should err on the right side by considering them tuberculous and treating them accordingly, for by so doing the best result is obtained as time and study alone will bring out the truth.

There were quite a few cases, however, in which there were widespread rales from top to bottom resembling cases of extensive implantation of tubercle. When, however, they present no temperature or constitutional symptoms I do not see how they can be tuberculous. Tuberculous lesions of this type should give a positive sputum.

After the incidence of the disease began to abate a little, there was less wide spread pulmonary disease and more evidence of involvement of the pleura. These cases presented fibrino-purulent disease from the very beginning. The fibrin element was the characteristic thing, in some instances being extremely thick.

When infection of the general pleural cavity took place the result usually was massive fibrosis and contortion of the lung pulling the mediastinum and heart to the affected side resembling cases of old fibroid phthisis.

The massive fibrinous exudate made a great tendency for encysted empyemas to develop. There were two places where this occurred most commonly. One was next the mediastinum and pericardium in front, the other was in the interlobar spaces. In both instances there was compression of the surrounding lung tissue giving rise to localized pulmonary inflammation, rales and breathing changes. It will be seen at once that such changes were usually above the middle of the chest and as a consequence their nature was difficult to determine. Subsequent study only added to the dilemma for attempts at aspiration were futile in so many cases. Then when an hemoptysis would take place our vision would be still the more obscured. This, however, if interpreted correctly, was merely the drainage by vomicus and often resulted in a spontaneous cure. It is in these cases where the X-ray examinations are the most trustworthy evidence at hand.

There are two other conditions which were the result of the infection, not in themselves pulmonary lesions, but giving symptoms resembling and often mistaken for tuberculosis particularly if there is a persistence of any signs in the lungs.

The toxemia from the disease, probably from the pneumococcus, produced an anemia and marked general fatigue which persisted for weeks or even months. The least exertion would produce a marked increase in the rate of the heart with dizziness and dyspnoea. It should, however, be considered a distinct myocarditis, for by rest and the administration of caffeine, improvement takes place quite rapidly.

The other condition is related to the above but is a true aortitis from an implantation of the pneumococcus resulting in an aortic insufficiency. The diastolic murmur is low pitched, scarcely audible, and may be best heard by means of the naked ear in the third and fourth interspace to the left of the sternum. The anemia, fatigue, and tachycardia, signs that are so significant of tuberculosis, are very much more persistent than when there is but a myocardial affection alone.

Conclusions.

1. Lung complications in the recent epidemic were decidedly less common and less severe in the tuberculous than in the apparently healthy.

2. Careful examination will reveal pulmonary lesions much more frequently than statistics have shown.

3. Practically all cases that have a second rise of temperature or a persistence of the original will be found to have a pneumonia.

4. The signs which remain may be grouped into classes.

a. Those within lung tissue. These are usually showers of fine indeterminate rales with increased conduction of sound due to resultant increase in fibrous tissue.

1. Changes below the middle of the chest should be considered non-tuberculous.

2. Conversely changes above the middle of the chest should be considered and treated as tuberculous unless they can be proven otherwise.

3. When the changes are widespread throughout a lung they are usually non-tuberculous unless accompanied by marked constitutional reaction and positive sputum.

b. Pleural complications.

1. Fibrinous pleurisy with contraction and distorsion of the lung resembles old fibroid phthisis.

2. Encysted empyema on account of its location and inaccessibility to aspiration is at times extremely puzzling, particularly when associated with the following:

c. Pleural complications with disease in surrounding pulmonary tissue.

5. The anemia, fatigue and tachycardia as part of toxemic myocarditis or aortitis which at times develop may give rise to confusion, particularly if associated with any changes in the lungs.

6. Although there are a great many diseased conditions of the lungs that have persisted since the epidemic, careful study will show that very few are actually tuberculous.

7. There was no particular tendency, in my opinion, for the disease to reactivate an old arrested lesion. On the other hand we have no way of saying that the ordinary lapses of immunity and extension of the disease would not have happened had not the epidemic occurred.

Nitrous Oxide Anesthesia for Obstetrical Practice in Country.*

H. J. Wertman, M. D., Milford.

As an introduction to this paper I wish to say, first, that the end in mind at all times is safe obstetrics, in other words, that is, of fundamental importance.

The average woman of today has begun to realize that the greatest danger in becoming a mother is due to the lack of proper care, that childbirth is a natural function but not necessarily a purely physiological process. The average physician realizes that while he has given his patient the care demanded by law, yet he has a moral responsibility beyond the average practice of a mid-wife. With this responsibility in meeting the demand for painless obstetrics, we must not, for one second, forget the safety of mother and child, for neither dare be sacrificed. With this in view, I wish to take up nitrous oxide and oxygen for analgesia during labor. This is not a new discovery, since it had been used successfully in Europe forty years ago.

However, its value having been known for so many years, the difficulties of administration and its supposedly excessive cost greatly limited it in mitigating the pain in labor. As to cost, you will find it not excessive in primipara, about $6 to $8 will more than cover cost of gas and much less in multipara since we may only need the gas for twenty minutes or such a time. In these instances your expense is very small, probably 50 cents.

That much for the cost, now let us look at the difficulties of administration and see what they were and how they have been overcome, for, as stated before, by these difficulties nitrous oxide has been kept in the background most of all. First the mechanism interfered. It was impossible to give the nitrous oxide alone since it has given bad results, not that it was poisonous but that it shuts out oxygen or air, if you please, and your patient becomes asphyxiated.

The nitrous oxide does not break up when it goes into the blood but dissolves as it does in water and does not poison, thus giving us cyanosis and signs of asphyxiation because of the oxygen being diminished as the nitrous oxide replaces it in the lungs. From this study it becomes evident that to administer nitrous oxide we must find some way to keep the amount of oxygen at the same time. To this end men began to labor and we now have on the market a machine that gives any percent of oxygen you wish with your dose of nitrous oxide and you can at all times read the percentage of oxygen the patient is getting. Thus we have overcome part of the difficulties of administration.

Now we are at the point where we have the gas mixed with the percent of oxygen we wish to give and if for any reason we wish to change the percentage it can be regulated in a moment on the machine. With the gas now mixed in a rubber bag and a tube to the patient with an air tight mask all we have to do is open the valve and the gas rushes into the mouth and nose and your patient is breathing the mixture unbeknown to her as there is no odor and she is just as comfortable as if breathing air only. By keeping the percentage of oxygen for instance, about 8 to 10 percent, for two or three inhalations, you have analgesia, the uterine contractions go on and the patient assists by bearing down, no pain or at least she is unconscious of it; she may take one more breath if she wishes and the uterine contractions are over and the patient has not been distressed, only says that it seems like she has been dozing a little. This is the stage of analgesia, not complete anesthesia. During this stage you can control your patient, she hears and obeys you and at no time does she feel nervous.

Here, I think, is a great advantage for nitrous oxide. The uterine contractions are over, no pain, patient awakes in a moment without being startled, now she has begun to reason, she has been relieved, and everything will go better and the patient will rest between pains. The nervousness that follows the ether or chloroform at this time is lacking.

As labor progresses and the head begins to rotate under the symphysis and over the perineum, you raise the percent of oxygen and continue administering the gas, nearly all the time. Now you are approaching complete anesthesia. Safe? Yes, why not? Your patient is getting 18 to 20 percent oxygen, enough to keep her in perfect condition for hours. Labor goes on gradually, the head rounds over the perineum, not expelled with a rush and a tear but just as gradually as anyone could wish, giving you a chance to protect the perineum and all the time the patient not making a move. In two minutes mother is wide awake and asks if she is through and we have eutocia.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

At this point I wish to compare with scopalamin, with which at this time, with the pain this much relieved, the uterine contractions would be getting very very poor and so many times under this form of delivery instruments have been resorted to. In undertaking this work I took timely council with my colleague, Dr. Sandusky of Seward, he being interested, we have proceeded together in its study. Dr. Sandusky, being physician at the Industrial Home at Milford, gave us an advantage and enabled us to work together nicely. To date we have delivered forty-four women, most of these in private practice, with no bad results to mother or babe, not once have we seen a blue baby nor mother who showed any signs whatever of any bad effects.

I, personally, had one hemorrhage following delivery about twenty minutes, patient became quite nervous and uterus relaxed. I had no help at this particular case except the husband, whom I instructed to open certain valves and hold the mask over the patient's face. After three or four inhalations uterus contracted, hemorrhage stopped, and I think the nitrous oxide stimulated the uterine contractions, which experiments have tended to prove it will do in analgesia.

I do not mean to say that there is no danger with nitrous oxide and oxygen because any apparatus, no matter how efficient, may fail completely if not regulated, but I do mean to say that, first, labor (and these are averages) is shortened at least 25 percent; second, patients are stronger following delivery; third, better control of patient reduces lacerations; fourth, enables the attendant to do better and cleaner work and that nitrous oxide does not favor post-partum hemorrhage. Nitrous oxide analgesia may be used in all types of obstetrics and in normal cases properly administered, it does 100 percent efficiency and with nitrous oxide and oxygen, labor can be robbed of its greatest terror.

A Working Classification of Tumors.

Roland G. Breuer, M. D.

In proposing a new classification of tumors, it is not my purpose to bring forth one which will supersede all other classifications, but merely to set forth a few suggestions toward a more complete and better understanding of the great and oftentimes obscure varieties of tumors which greet the efforts of the physician and surgeon at all times.

The root-meaning of the word "tumor" is "swelling." Hence, any abnormal swelling in or on the body may properly be called or considered as a tumor. Celsus gives it as one of the four cardinal symptoms of inflammation. Herodotus speaks of the "tumor of pregnancy." In past times the classification of tumors was relatively simple: those which were due to pregnancy, those due to inflammation, and those which were non-inflammatory but which grew progressively larger. This latter class contained those which caused death and those which did not. Very little, however, if anything, was known of the history of the progressiveness of tumors—their final classification was most often settled upon the arrival of the hearse. It was realized that some of these swellings would cause death of the patient—that his vitality was sapped; that his flesh melted away, and that the only relief was death. But this knowledge came only late in the course of the growth, and when it was superficial enough to be seen or palpated. The many processes reaching into the tissues, and the melting of these tissues led the fanciful mind of the ancient to ascribe the whole affair as due to the growth and existence of some animal which preyed upon its victim's body, taking from it nourishment and strength and giving nothing in return. From its general resemblance to a crab, the name "cancer" was given it, which word is still used to designate the malignant tumors.

Since then many attempts have been made to formulate a classification which would be satisfactory and efficient. One reason for the failure of these attempts is due to the fact that, as added knowledge is gained of the various phases of tumors, many things are cast aside as useless. Hence, each added classification must enlarge its scope, to be superseded in its turn by some other which meets the additional facts squarely.

In the present day there are many different classifications of tumors. Each pathologist attempts to formulate a scheme which will be logical and practical. Some have given us classifications which stand; some have thrown up their hands in despair and have dispensed with the idea of an arrangement which will be all-embracing. Thus it will be realized what a problem is before one who fancies himself able to add anything which will add clearness to this confusing phase of Medical Science.

To begin with, all tumors may be placed into one of several large classes. The first of these is the Physiologic, in which the tumor is the result of vital processes within the body, acting in a more or less augmented but natural way. Examples of this are Traumatic Edema and Pregnancy. The second great class is due to the dislocation of a part. The third is those which are the result of inflammation—the Tumor of Celsus, abscesses and the infective granulomata. Lastly come the lawlessly-growing tumors, which, when once begun, grow by forming new tissue within themselves. It is this class which is generally meant when the word tumor is at present used. Hence, we may put it in schematic form thus: (1)

Tumor:

I. Physiologic.
  1. Traumatic Swelling.
  2. Pregnancy.
    a. Breasts.
    b. Genitals.
  3. Callus, etc.
II. Dislocation of a Part.
III. Inflammatory (proliferation of normal tissue).
  1. Simple inflammation.
  2. Abscesses.
  3. Infective Granulomata.
IV. Neoplasms (proliferation of new tissue).
  1. Benign.
  2. Malignant.

A later classification by Adami (2) expresses this in a somewhat different way, viz:

Tumor:

I. Due to Dislocation of Parts.
II. Abnormal collections of fluid, of gas, or blood.
  1. Localized.
  2. Diffuse.
III. Actual New Growth of Tissue:
  1. Physiological.
  2. Hypertrophic.
  3. Localized, abnormal growths of a part of a tissue or organ or within an organ.

Elsewhere Adami (3) classifies the Autonomous, or, as he calls them, the neoplasms (2). This classification has to do with the property of forming tissues, and are called by him the Primary Tumors. Thus:

Primary Tumors.

I. Teratomata: Derived from cells which are capable of giving rise to any tissue (totipotential).
II. Teratoblastomata—Mixed Tumors. Give rise to tissues which develop from one or two germ layers (pluripotential).
  1. Monophyllic—several different kinds of single germ layer.
  2. Diphyllic—2 germ-layer derivatives.
III. Blastomata—Single type of tissue (unipotential).
  1. Heterochthonous: Derived from other individual cells. Must come from embryo or embryonic membrane (chorionepithelioma).
  2. Autochthonous: Unipotential cells from cells which come from own body of individual.
    a. Hylic—from pulp tissue.
      (1.) benign.
      (2.) malignant.
    b. Lepidic—from layers—membranes.
      (1.) benign.
      (2.) malignant.
    c. Mixed—from both.
      (1.) benign.
      (2.) malignant.

It will be seen that in the preceding paragraphs the terms "benign" and "malignant" are used. By a benign tumor we mean one which is harmless in itself—that is, there are no primary ill results to the individual. Secondary results, such as the pressure on a vital organ, etc., are not an indication of malignancy. A malignant tumor is one in which certain ill effects (toxin, cachexia, metastasis, etc.) are due to the tumor.

This classification of Adami is complete in many respects, and at present in most of its phases is incontrovertible. But it is not all-embracing. Moulin (5) gives another scheme for classification. To quote:

"The characteristic of all these tumors (neoplasms) that which distinguishes them from others and from the structures among which they lie, is their independence. They are not able to support themselves, it is true, but their life is distinct from the life of the structures from which they grow. If transplanted to another host, so that they can get their supplies equally well, they continue to grow and thrive long after the original parent is dead. They live upon the parent like a parasite upon its host, drawing all they want from it, doing nothing for it in return, and in certain instances, draining it of all its strength until it dies of starvation. These tumors are the offspring of the tissues from which they grow, and belong, not to the same generation, but to the next.

They first begin as a bud, growing from apparently normal tissue. They may develop into organisms apparently as perfect as the one from which they grow; or into mere masses of cells, heaped together without order or arrangement. Which of these forms the tumor takes (or, in other words, the degree of organization of which the tumor bud is capable) depends upon the stage in the life history of the race that parent cells had reached at the moment the bud began to grow.

The individual is the epitome of the race. Each cell passes through all the stages through which its ancestors passed in the course of evolution, and any bud that is given off by the parent cell before it has reached its final form possesses the same power that the corresponding ancestor possessed in days gone by. The completeness of power to reproduce whole tissues or organs depends on the stage of development at which the bud was given off, and the higher the stage of development, the less able is the cell to reproduce a variety of tissues. The structure of a tumor depends on that of the parent stem. It is never so perfect but there is always a general resemblance. The character of a tumor, whether it is malignant or not, depends on the maturity of the parent cells at the moment the bud begins to grow.

Germ Organ Tumors:

Are nearly all from the germ organ, or the ovary, rarely coming from the testis, at any rate, after the sperm cells are developed, probably because of the high degree of specialization. It is not possible to arrange these tumors in classes, for they form a series, almost an unbroken series, ranging from an included foetus at one end to ovarian adenomata, mere heaped-up masses of epithelial cells, at the other.

(a) Included Foetus: This is given off earliest in the development of the cells and springs up before the generative organs are differentiated, and occurs, therefore, in both sexes. It is, as a rule, found in the genital area, but may occur elsewhere, due to accidental displacement of some of the cells of the organ in the course of development, or to the fact that some of the somatic cells have been stimulated to excessive activity before their latent reproductive power has lost any of its primitive vigor.

(b) Internal Teratomata: These are given off later in development. Just as the race has undergone evolution and has lost much of its power of spontaneous reproduction, so does the individual in his development repeat those various stages of evolution and his cells, upon becoming more differentiated, give up more and more their latent regenerative power. Hence, at a higher stage of "developmental evolution", the bud will be capable of less power of differentiation, and the resulting structure of the tumor will be less perfect. Thus, those tumors which are given off at a later date are far less complete. In general, they are made up of organs possessing a general resemblance to the parent, but are far less complete. There is no order to their arrangement and they are much different in shape and outline.

(c) Ovarian Dermoids and Adenomata: No hard and fast line can be drawn between these and the internal teratomata, which undoubtedly arise from the reproductive power of unfertilized ova, roused to action by some stimulus. Their degree of organization depends on the age of the person—upon the degree of differentiation. The simplest of these tumors do not make their appearance until old age.

Somatic Cell Tumors:

There is no difference between germ cells and somatic cells at first. Their power of direct reproduction is practically equal. In certain circumstances one group can be made to replace the other and undertake all its duties, and it is possible that some of the complex tumors in distant parts of the body which are said to arise from misplaced germ cells of the primitive germ organ are really due to the still intact reproductive power of the somatic cells. However, with the specialization of the somatic cells into various tissues, the power of regeneration is lost, and with the more highly specialized tissues, such as the nerve cells and muscles, the power of reproduction is practically nil. Connective tissue is less highly specialized than brain tissue and many other tissues. Also, there is a connective tissue framework in practically every tissue in the body. In injuries, due to the lower specialization of the connective tissue (and its consequent higher power of regeneration) it is this tissue which forms the healing material — scar tissue. Also, on account of its lower specialization, it more easily retrogrades in specialization under irritation.

With the exception perhaps of those tumors starting when the reproductive power of somatic and germ cells is equal, no tumor from somatic cells ever attains a high degree of organization. They may be formed of tissues more or less differentiated and heaped together with more or less order and arrangement, but they are never made up of structures, such as organs.

The classification of tumors that grow from the somatic cells depends upon the classification that is adopted for the tissues themselves. Every tissue has its own kind of tumor just as it has its own kind of structure. For instance, any class of tumor, adenoma for instance, has certain general features in common, like the cells from which it grew, but in different tissues the various adenomata behave in quite different manners. For instance, adenoma of the prostate behaves in a much different manner from an adenoma of the salivary gland.

Errors of Development:

These are not due to sudden awakening of the reproductive power of tissues, but to either irregularities of development, such as premature arrest of development, or the persistence of tissues which should normally regress and atrophy. The meningomyelocele is an example of the first class, and cysts of the hypoglossal and Wolffian and Mullerian ducts and tumors of the coccygeal region are examples of the latter class.

MacCarty's Classification.

In 1915 Dr. Wm. Carpenter MacCarty of the Mayo Institute proposed a new classification of tumors (6) which go under the name of Neoplasms. This view will be seen not to adhere to the histogenetic classification of tumor growth. Some of the reasons given for the necessity of a new classification are as follows:

"(1). It has been clearly demonstrated that carcinoma in three different organs of different germinal layers arises from the regenerative cells of the parenchyma of the organs and not from the parenchyma of these organs (breast, skin and prostate).

(2). It has been definitely established that cancer cells of different organs of different germinal layer origin are often morphologically indistinguishable.

(5). A review of embryological facts relative to the histogenesis of the different tissues of the body clearly reveals a lack of definite information relative to the exact origin of many tissues, a fact which places any classification which is founded on the histogenesis of tissues on a theoretical basis.

(6). The histogenetic basis for a classification of tumors is also based on the theory of the specificity of tissues, which finds some contradictions in biological experimental facts and in certain embryonic developmental facts."

He ascribes the origin of the tumor cells as coming from certain cells which are known as regenerative cells. The regenerative cells are those which remain in a state of reserve for the purpose of producing specific tissues when these specific tissues are destroyed. Perhaps the meaning is best made clear in his own words.

"(1). The cell is the recognized unit of life.

(2). Tissues are communisms of specific cells.

(3). Organs are communisms of tissues.

(4). The fertilized ovum by a process of segmentation produces cells which produce cells, which become differentiated into tissues.

(5). During the process of development of cells which produce tissues, certain cells remain in a stage of reserve (regenerative cells) for the purpose of producing specific tissues when the specific tissues are destroyed.

(6). In the presence of chronic irritation, specific cells of tissues are destroyed; the reserve cells become hyperplastic and sometimes in the presence of failure to reproduce specific cells they form an overgrowth of cells, the cells of which sometimes migrate into the stroma.

(7). The cytological process of attempted regeneration expresses itself histologically in three definite stages or conditions:

(a) By the presence of atrophic or degenerating specific or differentiating cells, plus hypertrophic regenerative cells. (Primary Cytoplasia).

(b). By the absence of specific cells, plus the presence of hyperplastic regenerative cells. (Secondary Cytoplasia).

(c). By the absence of specific cells, plus the presence of the hyperplastic regenerative cells, which cells migrate into the surrounding stroma, lymphatics, neighboring and distant organs. (Tertiary or Migratory).

(8). The First Cytoplasia (Primary Cytoplasia) represents a condition which is commonly accepted as a clinically benign condition. The third cytoplasia (Tertiary or Migratory Cytoplasia) represents a condition which is commonly accepted as a malignant condition. The second cytoplasia (Secondary Cytoplasia) with our present knowledge is still doubtful as to malignancy, and represents a group which has been variously considered by both pathologist and clinician—a group which has caused endless confusion to them both.

(9). Biologically certain regenerative cells react to irritation, which destroys the end products of their specific differentiation.

"In primary reaction there is an attempted if not complete reproduction of specific cells. In secondary reaction there is a failure to reproduce specific cells plus an overgrowth of regenerative cells. In the third reaction there is a migration of the hyperplastic regenerative cells. Each one of these cytoplasias is expressed by terms the etymology of which is well known and accepted in biology.

In schematic form:

Primary (Restauro) Cytoplasia
fibro-
myxo-
lipo-
leiomyo-
rhabdomyo-
epithelio-
adeno-
neuro-
lympho-
chondro-
osteo-
myelo-
endothelio-
perithelio-
glio-
melano-
erythro-
poly-
x-

Secondary (Expando) Cytoplasia
fibro-
myxo-
lipo-
leiomyo-
rhabdomyo-
epithelio-
adeno-
neuro-
lympho-
chondro-
osteo-
myelo-
endothelio-
perithelio-
glio-
melano-
erythro-
poly-
x-

Tertiary (Migro) Cytoplasia
fibro-
myxo-
lipo-
leiomyo-
rhabdomyo-
epithelio-
adeno-
neuro-
lympho-
chondro-
osteo-
myelo-
endothelio-
perithelio-
glio-
melano-
erythro-
poly-
x-

Conclusion: (1) This classification is in accord with biological terminology and conception and standardizes the science of neoplasia and allows complete correlation of clinical observation with cytologic activity.

(2) It forms the basis of an accurate determination of the clinical value of pathologic data.

In this classification no special cognizance is taken of the special tumors which contain a variety of tissues, such as teratomas and dermoids, further than including them under the head of polycytoplastic tumors. No cognizance whatever is taken of tumors due to errors of development.

As has been before stated, there are three principles in the classification of tumors, viz: (1) the histogenetic, (2) the histological, and (3) the "regeneration cell" theory of MacCarthy. No one of these classifications is wholly satisfactory; each one, because it adheres rigidly to its ideal of type (histological, histogenetic, regeneration) must of necessity relinquish some of the essential points, for in the present day the many manifestations of tumor growth cannot be embraced under any one of the three principles. But why could not an attempt be made to formulate a classification which would include these three elements, regardless of their rigid conformity to ideal, but suiting each of these elements to the final aim—the complete, logical understanding of the classification of tumors? Where one fails, let us call upon one of the others to aid—it is but a poor general who will not accept a substitute to fill a breach in the wall, when granite is wanting. Perhaps the resulting wall will not be of as uniform a structure, but it is as strong, or stronger, than before. After all, in a great many cases the different classifications are alike, only proceeding under different terminology.

Therefore, by taking Moulin's Classification of tumors due to reproductive power of tissues and (1) tumors due to errors of development, for a foundation, we include the tumors left out of Carpenter's classification. Using Moulin's classification further, we divide the first class into (a) Those due to the germ cell, (b) Those due to the somatic cell, and (c) Those of the undifferentiated somatic cell which has lost very little of its regenerative power through specialization.

In further classifying germ cell tumors, we adopt from Adami's classification: (1) teratomata, in which the cell has the power of totipotential regeneration. (2) teratoblastomata, in which some of the power has been lost—pluripotential, and (3) dermoids, still less capable of regeneration, and (4) ovarian adenomata—still less capable.

In considering somatic cell tumors, we may subdivide them into three classes (MacCarthy's scheme). (1) Restauro-cytoplastic, which are frankly benign, (2) Expandocytoplastic, the borderline tumors, and (3) Migrocytoplasitc, which are frankly malignant. Under each of these classes would come the name of the tissue which produced the mother cells of the tumor — fibro-, myxo-, etc. Thus the general classification of tumors would be approached, if not absorbed. Under this division might also be included the idea of the regression of tissue cells, graphically expressed as follows:

Normal tissue..............................(somatic cells)
Hard fibroma } .... (restauro-cytoplasia)
Soft fibroma }
Fibrosarcoma ....(expando-cytoplastic)
Sarcoma ....(migro-cytoplasia)

We could also include here the idea of small and large round cell sarcomata—the former being but a stage of more pronounced regression.

The polycytoplastic tumors have already been included under either the germ cell tumors or the undifferentiated somatic cell tumors.

The second great class of tumors—those due to errors in development—needs but little discussion in this paper. Its two subdivisions are: (a) Tumors resulting from the failure of progression of development, and (b) Tumors resulting from the failure of regression of development.

When completed, the classification will read:

TUMORS.

I. Tumors Due to Reproductive Power of Tissues:

A. From the Germ Cell:
  1. Teratomata—totipotential.
  2. Teratoblastomata—pluripotential.
  3. Dermoids.
  4. Ovarian Adenomata.

B. From the Somatic Cell—Blastomata (Unipotential:
  1. Restaurocytoplastic:
    (a) fibro-
    (b) myxo-
    (c) lipo-
    (d) leiomyo-
    (e) rhabdomyo-
    (f) epithelio-
    (g) adeno-
    (h) neuro-
    (i) lympho-
    (j) chondro-
    (k) osteo-
    (l) myelo-
    (m) glio-
    (n) endothelio-
    (o) perithelio-
    (p) melano-
    (q) erythro-
    (r) x-
  2. Expandocytoplastic:
    (a) (as under restauro-)
  3. Migrocytoplastic:
    (a) (as under restauro-)

C. From the Undifferentiated Somatic Cell:
  1. Mixed Tumors.

II. Tumors Due to Errors of Development:

A. Failure Progression of Development:
  2. Meningo-myelocele.

B. Failure of Regression of Development:
  1. Cysts of Hypoglossal Ducts.
  2. Cysts of Mullerian and Wolffian Ducts.
  3. Tumors of Coccygeal region.

Thus we have attempted to classify in a logical way that embraces their histological, histogenetic, and clinical characteristics all the tumors that the practitioner meets in his usual practice, practically all the tumors. While not adhering to any ideal, nor is it considered faultless, it is brought forward to give a suggestive foundation for further, more definite, and more painstaking labor.

Bibliography.

1. Rider's Surgery (1893) pp. 821-825.
2. Adami: Principles of Pathology, I, 650-651.
3. Adami: Montreal Medical Journal, July, 1908.
4. Adami: Principles of Pathology, I, 667.
5. Moulin: Annals of Surgery, lxiii, 257.
6. MacCarthy, Am. Jour. Med. Sci., cvi, 799.
7. Growth of Tumors, Jour. Physiol., L, 322, July, 1916.
8. The Transformation of Benign Tumors, Med. Rec. lc 537.
9. Goodpasture, Old Age and Tumors, J. M. Res., xxxviii, 127.
10. Bloodgood, Cancer, J. A. M. A., lx, 552.
11. Senn, Pathology and Surgical Treatment of Tumors.
12. Henry Morris, Lancet, Dec. 12, 1903.
13. DeCosta, Modern Surgery, p. 341.
14. Delafield & Prudden, Textbook of Pathology

Treasury Department, Office of Commissioner of Internal Revenue, Washington, D. C., July 31, 1919.

Enforcement of the Harrison Narcotic Law.

To Collectors of Internal Revenue,
Revenue Agents, and others concerned:

The enforcement of the Harrison Narcotic Law, as amended by the Revenue Act of 1918, in the light of the recent decisions of the Supreme Court of the United States has produced a condition with regard to the treatment and care of narcotic addicts that calls for exceptionally careful and rational handling. The vigorous enforcement of this law must be carried out, in such a manner as not to produce unwarranted suffering on the part of addicts.

From recent decisions of the Supreme Court it will be noted that the constitutionality of the Harrison Narcotic Law has been clearly upheld, and that the Supreme Court has held that it is unlawful to furnish a person popularly known as a dope fiend with narcotic drugs for the purpose of satisfying his appetite for the drug as an habitual user thereof and not in the course of the regular professional practice of medicine and in the proper treatment of disease. It was also held that an order for narcotics issued by a practitioner to an habitual user thereof, but not in the course of professional treatment in an attempted cure of the habit, but for the purpose of providing the user with narcotic drugs sufficient to keep him comfortable by maintaining his customary use, is not a prescription under the law, and that the practitioner who issues an order under such circumstances, as well as the druggist who knowingly fills such an order, has committed an indictable offense.

The decision of the Circuit Court of Appeals, Eighth Circuit, in the Thompson case, in explaining the object of this law, states that although enacted under the taxing power of Congress, it was intended to prevent the growing use of narcotics, deemed a menace to the nation by Congress and that the Act has a moral end, as well as revenue, in view. This decision further held that a physician who dispenses narctics not in good faith for the purpose of securing a cure of one suffering from an illness, or to cure him from the narcotic habit, violates the law; and affirmed the conviction of a physician who was charged with furnishing narcotics to an addict in decreasing quantities, claimed to be in an attempt to cure addiction, but where it was shown that such physician did not personally attend the addict or give him personal attention sufficient to show that he was practicing in good faith.

The Oliver case involved the sale of a so-called exempt preparation under Section 6 of the Act, to-wit: Paregoric, not as a medicine but for the purpose of evading the intentions and provisions of the Act by supplying addicts with said preparation to satisfy addiction. Judge Woods charged the jury to the effect that whether the paregoric was legitimately sold as a medicine, or was dispensed with the intent of evading the purposes for which this Act was passed, was a question of fact to be decided by the jury; and that it made no difference if the officer who bought the paregoric did not intend to take it himself, provided the defendant sold it for the purpose of administering to an addict. In brief, if paregoric was sold for that purpose, "then the offense was complete" and the defendant "would be guilty."

You have also been furnished with Treasury Decision 2879 revoking Treasury Decision 2200. The important part of Treasury Decision 2879 is the second paragraph, reading as follows:

> "The Act of December 17, 1914, as amended by the Act of February 24, 1919, permits the furnishing of narcotic drugs by means of prescriptions issued by a practitioner for legitimate medical uses, but the Supreme Court has held that an order for morphine issued to an habitual user thereof, not in the course of professional treatment in an attempted cure of the habit, but for the purpose of providing the user with morphine sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning and intent of the Act. U. S. vs. Doremus, No. 367, October Term, 1918, T. D. 2809."

In the administration of this important law many emergency cases will doubtless be presented to you calling for immediate and practical solution. You will be called upon by practitioners and druggists, and importuned by addicts to answer their questions. It is obvious that no inflexible rule can be announced covering all specific cases which may arise.

Extraordinary cases which cannot be decided by the Collector should be at once submitted to the Bureau with a full and accurate statement of material facts involved. In view of the emergency already precipitated in certain districts the following suggestions, which are subject to modifications through further interpretation of the law by the courts, are submitted:

1. Use of Narcotics in the Treatment of Incurable Disease, Other than Addiction.

With reference to persons suffering from a proven incurable disease such as cancer, advanced tuberculosis and other diseases well recognized as coming within this class, the reputable physician directly in charge of bona fide patients suffering from such diseases may, in the course of his professional practice, and strictly for legitimate medical purposes, prescribe narcotic drugs for the immediate needs of such patients, provided said patients are personally attended by the physician and that he regulates the dosage himself. The prescriptions in such cases should bear the endorsement of the attending physician to the effect that the drug is to be dispensed to his patient in the treatment of an incurable disease.

Such bona fide cases of incurable disease should not occasion difficulty in the proper administration of the law, and the fact that the patient suffering from such incurable disease is addicted to the use of narcotic drugs should not complicate the matter. In this class of cases, as well as in others hereinafter mentioned, caution should be exercised to avoid being imposed upon by unscrupulous persons, and too much credence should not be given to the unsupported statements of the addict himself, because the confirmed addict will go far beyond the truth in an attempt to secure an ample supply of narcotic drugs with which to satisfy his cravings.

The primary responsibility obviously rests upon the physician in charge of the case. The Bureau manifestly is not charged with the duty of laying down any fixed rule as to the furnishing of drugs or the frequency of the prescriptions in any particular case involving an incurable disease. The danger of supplying persons suffering from incurable diseases with a supply of narcotics must be borne in mind, because such patients may use the narcotics wrongfully, either by taking excessive quantities or by disposing of a portion of the drugs in their possession to other addicts or persons not lawfully entitled thereto.

While the primary responsibility rests upon the physician in charge, a corresponding liability also rests upon the druggist who knowingly fills an improper prescription or order whereby an addict is supplied with narcotics merely for the purpose of satisfying his addiction.

2. Aged and Infirm Addicts.

Cases will come to your attention where aged and infirm addicts suffering from senility, or the infirmities attendant upon old age, and who are confirmed addicts of years standing will, in the opinion of a reputable physician in charge, require a minimum amount of narcotics in order to sustain life. In such cases prescriptions to meet the absolute needs of the patient may be written and filled without involving a criminal intent to violate the law. Even in these cases every reasonable precaution should be exercised to prevent the aged and infirm addict becoming the innocent means whereby unauthorized persons may engage in the illicit use and traffic in these habit forming drugs. Prescriptions in this class of cases should bear the endorsement of a reputable physician to the effect that the patient is aged and infirm, giving age, and certifying that the drug is necessary to sustain life.

3. The Ordinary Addict.

One of the principal difficulties in administering this law will arise in the case of the ordinary addict who is neither aged nor infirm nor suffering from an incurable disease. Mere addiction alone is not recognized as an incurable disease. It is well established that the ordinary case of addiction yields to proper treatment, and that addicts can be taken off the drug and when otherwise physically restored and strengthened in will power will remain permanently cured. The average addict does not believe this and it is symptomatic with him to have a fear and distrust of any treatment or cure. Whereever the occasion presents itself, the hope of successful treatment should be instilled in the minds of the unfortunates addicted to this terrible habit.

The law as construed by the Supreme Court holds it to be a crime for any person, including practitioners, to furnish an addict with narcotics for the mere purpose of satisfying his cravings for the drug. The enforcement of this law as thus construed presents a problem attended with serious difficulties.

The ordinary addict when suddenly deprived of the drug to which he is addicted suffers in an extreme manner both physically and mentally. In this condition he may become a menace to life and property and practically a public charge. Therefore, it must be recognized that at present the care and treatment of such unfortunate addicts is primarily a problem to be locally handled by the municipal and State authorities. It is generally recognized that the indigent sick of a community are public charges therein, and that such immediate care and treatment as is required should be furnished by the local authorities.

A project is under consideration looking toward the assistance of the United States Public Health Service in the institutional care of these addicts, but no specific appropriation for this purpose has as yet been provided by Congress.

Collectors and Internal Revenue Agents should confer with each other and with the United States Attorneys in their respective districts and divisions regarding the handling of local emergencies as they arise, and should arrange conferences with the local authorities, including Boards of Health, for the purpose of establishing at the earliest practicable date public clinics where relief may be afforded in conformity with the law. Clinics of this character have already been established in certain cities, notably New York, New Orleans and Memphis.

When any of these contemplated steps have been taken the Collector should advise the Bureau in detail of the plans put in operation in order that in the near future some uniform program may be adopted throughout the United States. It is thought that it will not be difficult under the management of a reputable physician appointed by the local authorities to examine, register and properly treat ordinary addicts residing in his community by reducing the dosage to the minimum and preparing and encouraging the addict to enter a hospital, sanitarium or institution wherein he can be taken off the drug and properly treated with a view to curing his addiction.

Care should be exercised by investigating and field officers of this Bureau not to interfere with or harass the reputable physician, who in the course of his professional practice and for legitimate medical purposes only is in good faith treating a bona fide patient for the cure of addiction, nor the official representative of the local authorities who is administering narcotics to addicts in a proper manner to meet their immediate needs to prevent collapse. At the same time it must be understood that the so-called reductive ambulatory treatment does not meet with the approbation of the Bureau for the obvious reason that where narcotics are furnished to an addict who controls the dosage himself he will not be benefited or cured, and in many cases he may, by deceiving or importuning a number of doctors, secure a supply for peddling purposes.

The field officers of this Bureau are expected to investigate and report every illicit trafficker in narcotic drugs, including any peddler, smuggler, manufacturer, wholesaler, retailer, and practitioner, or other person, who wilfully violates the intent and provisions of this law as construed by the Courts. In no other way can this menace to the manhood of our country be eliminated. The commercial or so-called "Morphine Doctor", must be kept under proper surveillance, and in every case where clear evidence of his wilful intent to violate this law is procured no compromise will be made, but his vigorous prosecution will be insisted upon.

This matter is brought to your attention because of its extremely important and far reaching consequences. So vital a problem must not be overlooked or treated indifferently. Any helpful views you may desire to submit will be welcomed and given careful consideration in connection with our administrative plans and future legislation.

Please acknowledge immediately the receipt of this communication.

DANIEL C. ROPER, Commissioner.

Treasury Department, Office of Commissioner of Internal Revenue, Washington, D. C., August 30, 1919.

To collectors of Internal Revenue,
and Revenue Agents in Charge:

T. D. 2914 issued today and showing additional matter to be affixed to containers of Completely Denatured Alcohol, is called to your especial attention.

Reports recently received in the Bureau establish that Completely Denatured Alcohol is being used extensively for bathing and rubbing purposes. This is contrary to the law and regulations and such uses cannot be tolerated, as the Completely Denatured Alcohol is highly injurious to the skin and animal tissue.

It is also established that Completely Denatured Alcohol is being sold by irresponsible dealers under such circumstances as to assure them that it is being used for beverage purposes. Where it is so used for any length of time blindness inevitably ensues and the continued use can only result in death.

Collectors should use every means at their disposal to make known to the public the dangers of either external or internal uses of Completely Denatured Alcohol. Wherever Collectors or Revenue Agents in Charge hear of a misuse of Completely Denatured Alcohol, a most thorough and careful examination should be made immediately and all the facts fully reported to the Commissioner for the infliction upon the responsible parties, of the ultimate penalties provided by law.

J. H. CALLAN, Acting Commissioner.

(T. D. 2914)

Additional matter to be printed on labels affixed to wholesale or retail packages of Completely Denatured Alcohol.

Treasury Department, Office of Commissioner of Internal Revenue, Washington, D. C.

To Internal Revenue Officers and Others Concerned:

In view of the grave and extended abuses of the use of Completely Denatured Alcohol reported, it is deemed necessary to print upon the labels affixed to wholesale and retail packages a further and more specific warning as to its use than is shown on the present required label.

In addition to the present matter on the labels there will be required on all new labels hereafter, the printing in large letters in red ink under the skull and bones symbol, the word: POISON, and at the bottom of the label there will be printed the following statement:

> "Completely Denatured Alcohol is a violent poison. It cannot be applied externally to human or animal tissue without seriously injurious results. It cannot be taken internally without inducing blindness and general physical decay, ultimately resulting in death."

Until the present stocks of labels are exhausted this additional matter may be affixed to the containers on a separate label pasted above the present required label.

J. H. CALLAN, Acting Commissioner.

APPROVED: August 30, 1919:
CARTER GLASS, Secretary.

(Senate File No. 61.)

(Introduced by Mr. Brookley.)

An Act to regulate the sale, barter, exchange, giving away, dispensing and administering of Cocaine, Alpha or Beta Eucaine, Morphine, or Opium, or any Salt, Compound or Derivative or any of said substances, or any preparation, product or compound containing any of the foregoing substances or any of their salts, compounds or derivatives, and to provide a penalty for the violation thereof, and to repeal Section 8607 of the Revised Statutes of Nebraska for 1913, and to repeal all acts and parts of acts in conflict with this act, and to declare an emergency.

Be it Enacted by the People of the State of Nebraska:

Section 1. **Cocaine—Opium—Morphine—Sale of Regulated.**—It shall be unlawful for any druggist, drug firm or corporation, or any other person, copartnership or corporation, to sell, barter, exchange, dispense, or give away, any cocaine, alpha or beta eucaine, morphine, or opium, or any salt, compound, or derivative of any of the foregoing substances, or any preparation, product or compound containing any of the foregoing substances or any of their salts, compounds or derivatives, except upon the written prescription of a duly licensed practicing physician of the State of Nebraska, which prescription shall contain the date when given, the name and address of the person for whom prescribed, and by whom to be used, and be signed by the physician prescribing same and the address of the physician shall be affixed thereto, and when such a prescription is received, to be filled, the person filling same shall affix to said prescription, his name and address and the date of filling said prescription, and said prescription shall be retained on file within the State of Nebraska, where the same shall have been filled, by the person, firm, co-partnership, or corporation, filling same, for a period of at least two years, and said prescription shall not be filled more than once, and no copy of it shall be taken by any person, and said original prescription shall at all times be open to the inspection of the prescriber, to the State Board of Pharmacy, State, County or City Health Officers, County Attorneys, Grand Juries and all officers of the law, and such agents as may be appointed by them, or any of them, for the purpose of making said inspection, and except also, that such cocaine, alpha or beta eucaine, morphine, or opium or any salt, compound or derivative of any of the foregoing substances or any preparation, product, or compound containing any of the foregoing substances, or any of their salts, compounds or derivatives may lawfully be sold at wholesale to a duly licensed and registered pharmacist or druggist, duly licensed practicing physician, duly licensed practicing veterinarian, or duly licensed practicing dentist, upon the written and signed order of such duly licensed and registered pharmacist or druggist, or duly licensed and practicing physician, veterinarian or dentist, in which case, the wholesale dealer shall, before delivering any of said articles, make, or cause to be made, in a book kept for the purpose, an entry of the sale thereof, stating the date of sale, quantity sold, name and form in which sold, the name and address of the purchaser, the name and address of the person by whom the entry is made, and the name and address of the person filling the order, and the said book shall be preserved and retained within the State of Nebraska, at the place where said order was filled, for a period of at least two years from the date of the last entry therein, and always be open for inspection by the State Board of Pharmacy, State, County and City Health Officers, County Attorneys, Grand Juries, and all officers of the law, and by agents appointed by them, or any of them, for the purpose of making said inspection.

Section 2. **Same—Sale by Druggists.**—It shall be unlawful for any person, co-partnership, or corporation, to administer to any person, any cocaine, alpha or beta eucaine, morphine, or opium, or any salt, compound or derivative of any of the foregoing substances or any of their salts, compounds or derivatives, except that such drugs, or any of them, may be administered by any duly licensed practicing physician, by any duly licensed practicing dentist, or duly licensed practicing veterinarian, in the course of his professional practice only to a patient, when necessary for medical purposes, except, however, as prohibited in Section 4 of this Act, or otherwise prohibited by law.

Section 3. **Same—Prescriptions.**—The above provisions, contained in Sections 1 and 2 of this Act, shall not apply to prescriptions, preparations and remedies containing not more than two grains of opium, or not more than one-fourth grain of morphine, or not more than one-eighth grain of heroin, or not more than one grain of codeine in one fluid ounce, or if solid preparation, in one avoirdupois ounce, or to liniments, ointments, suppositories or plasters, when said liniments, ointments, suppositories or plasters do not contain cocaine or any of its salts or derivatives or alpha or beta eucaine or any synthetic substitute for either of them, when plainly labeled "for external use only" and in good faith intended for that purpose.

Section 4. **Physicians Prescribe How—When.**—It shall be unlawful for any duly licensed practicing physician to prescribe, or for any duly licensed practicing physician, dentist, or veterinarian, to administer, in any manner or form, any cocaine, alpha or beta eucaine, morphine, or opium, or any salt, compound or derivative of any of the foregoing substances, or any preparation, product or compound, containing any of the foregoing substances or any of their salts, compounds or derivatives, for, or to, any person addicted to the habitual use of cocaine, alpha or beta eucaine, morphine, or opium, or any salt, compound or derivative of any of the foregoing substances, or any preparation, product or compounds containing any of the foregoing substances or any of their salts, compounds or derivatives, except that a reputable and duly licensed practicing physician may personally administer to a patient who is an habitual user of said drugs, or any of them, necessary doses thereof, when it has been in good faith determined by two reputable and duly licensed practicing physicians, in consultation, to be absolutely necessary in the medical treatment of said patient, in which case, the physician administering said drugs, or any of them, shall make and keep a record in writing of the name and address of the person to whom said drugs, or any of them, were administered, date administered, form and quantity of drug administered, name and address of consulting physician, date and place of consultation, which record shall be retained and preserved within the State of Nebraska, and the County where administered, for a period of at least two years, and shall always be open for inspection by the State Board of Pharmacy, State, County and City Health Officers, County Attorney, Grand Juries, and all officers of the law, and by agents appointed by them, or any of them, for the purpose of making an inspection, and which record shall be made at the time of each administering of said drugs, or any of them, and a copy of said record shall, within five days after each administering of said drugs, or any of them, as in this section provided, be filed with the County Attorney of the County in which said administering took place, by the physician administering said drugs, or any of them, and shall have affixed thereto, the signature and address of the administering physician.

Sec. 5. **Violations—Penalty.**—Any person violating any of the provisions or requirements of the foregoing and preceding sections of this Act, or any part thereof, shall be guilty of a felony, and for each violation thereof shall be punished on conviction thereof, by imprisonment in the penitentiary for not less than one year nor more than five years, or by a fine not less than One Hundred Dollars ($100.00) nor more than Two Thousand Dollars ($2,000.00), in the discretion of the Court.

Sec. 6. **Repeal.**—That said Section 8607 of the Revised Statutes of Nebraska for 1913, is repealed, and all Acts or parts of Acts in conflict with this Act are hereby repealed.

Sec. 7. **Emergency.**—Whereas an emergency exists, this Act shall be in force upon and after its passage and approval.

Approved, March 24, 1915.

Delicate scientific measurements have proved that contralto, baritone, and bass singers use far more force than soprano and tenor singers need. The explanation is that the lower tones leave a wider space between the vocal chords and require more vibration of the membranes, more air, and much more force. It is said that that is the reason a woman can outtalk a man. He has to use from seven to sixteen times as much lung power in uttering his deeper-toned words.

THE NEBRASKA STATE MEDICAL JOURNAL
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The Laennec Centennial.

It is difficult for us of the present day to realize the disadvantages under which our forbears in the practice and art of medicine carried on their work. These disadvantages are brought to our minds more forcibly at the time of celebrations of centennials or similar occasions. It is then that we realize the importance of the discoveries which our predecessors made. In the case of Laennec it was the application of a well known physical law to medical examination which opened wide the door to the closed region of the human chest and enabled the medical profession by the use of a simple instrument to recognize and classify the diseases of the heart and lungs in a way never before considered possible. Yet this discovery was so simple and today the stethoscope is in such common use that it seems as if it must always have been known and used. Laennec himself announced his discovery so simply, considering it merely a matter of technique to allow him better to recognize and identify the sounds of the heart and lungs.

In just that way the majority of epoch making discoveries have been made usually by a man who was busily engaged in his daily tasks while endeavoring to perform those tasks to the best of his ability. The dreamer who has visions of discovering an easy way to do things and constantly has as his aim some far reaching and important discovery which will revolutionize medicine or any other line of human endeavor remains as a rule a dreamer and an unsuccessful one at that.

Though this year, the centennial of the discovery of the stethoscope, naturally focuses attention upon Laennec, we should also remember that his era developed a large number of earnest students in other departments of medicine to one of whom, Dupuytren, we call attention in this issue, and that this period of time during which they lived marked the transition of medicine from a theoretical philosophical ambiguity to a science founded upon painstaking research.

State Notes.

Dr. I. H. Dillon, of Auburn, Nebraska, honorably discharged from the Medical Corps, U. S. Army, has been appointed Chief of Bureau of Public Health, Lincoln, Neb.

Dr. Robert McConaughy, of York, was elected president of the American Association of Railway Surgeons, at their recent meeting in Chicago.

Dr. W. C. Keettel, of Lyons, Neb., has moved to Los Angeles, Calif.

County Society Notes.

The Omaha-Douglas County Medical Society meeting on October 14th, 1919, was well attended and interesting. Dr. Leroy Crummer epitomized Laennec's contributions to our application of medicine and aid in examining the heart and lungs. He exhibited books and photographs contributed. See page 315.

Dr. A. B. Somers—the dean among active practicing physicians in Omaha—summarized the history of the Omaha-Douglas County Medical Society, referring briefly to its immediate ancestor, the Omaha Medical Club. See page 324.

Dr. C. H. Waters outlined a clinical case of interest to the profession. See page 325.

An address on Dupuytren by Dr. A. F. Jonas was interesting and enlightening. See page 320.

Committee on Journal and Publication.

In this issue of the Journal we print the law in Nebraska governing our privileges, in prescribing narcotics, and the penalty for its violation. Honorable members in our profession do not wish to be law breakers, but unless we acquaint ourselves with its text, our desire to relieve obvious suffering may lead us to prescribe an unlawful amount of a permissable drug. Not knowing the act was a violation of the law, is not a valid excuse in court, while pleading ignorance may be humiliating, and even derogatory to the professional reputation of the accused.

Private Library.
DR. C. C. [illegible]

THE NEBRASKA STATE MEDICAL JOURNAL

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NEXT ANNUAL SESSION OMAHA, MAY 24-26, 1920.

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Primary Sources of Infection.[*]

Henry B. Lemere, M. D., Omaha.

It is usual for a president in his address to crystallize the advanced thought of himself and his confreres, and endeavor from these definite convictions to recommend what seems to him a logical and ideal future line of action. This text I shall follow and it will be my excuse for the fact that several of my observations otherwise would appear somewhat disconnected.

In triology, and the same is true in internal medicine and diagnosis, the trend of modern thought is against the consideration of the etiology of any condition as being idiopathic. Pathological conditions of the eye, for instance ulcers, iritis, retinitis, optic neuritis, choroiditis, glaucoma, cataract, chronic conjunctivitis are more and more found to be primarily due to pathological conditions of those parts of the body in close relation to the eye or perhaps far removed from it. These pathological conditions have been named for lack of better terms, focal infections, and general infections. I think it desirable to improve the terminology of these conditions. The present terms are liable to impose limitation and narrowing of these new conceptions which need all the latitude possible for their growth. If we are seeking the source of an unexplored river, we are poor geographers if we are satisfied with the first large tributary stream which we meet on our voyage. So in seeking the sources of all possible infection we must not be satisfied on discovering any area of well marked infection, but we must ultimately reach those portions of the body which are exposed to outside infection; in other words an infection is not a primary focus until we can eliminate other foci more peripheral to it. Given a perfectly healthy infant the only possible source of infection is from without, so that excluding hereditary pathology all our trouble must come from infections of the mucous membrane, or of the skin. The primary infections through the skin are as a rule obvious and not overlooked, and play but a small part in the etiology of our specialty. I think the term primary focus should be used in referring to any infected portion of the body representing the earliest or most peripheral source of any infection, and secondary, tertiary and remote, as representing the conditions once, twice or more removed from what seems to be the origin.

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[*] President's address delivered before the Sioux Valley Eye and Ear Academy at Omaha, July 22, 1919.

In early life infections are usually those of the alimentary tract and of the respiratory tract. So that probably the beginning of all our later troubles are the intestinal infections and the colds in the head of infancy. The intestinal troubles run a more acute course and their symptoms are such that they receive prompt treatment and they usually clear up and leave no after results. It is very different however with colds. One often follows another before there is a chance to return to normal and early in life a chronic infection in the upper respiratory tract is not infrequently established. Alveolar infections are practically absent in young children but superficial infections with disease of the gums is frequent. These peripheral infections of the nose and mouth react secondarily on the adenoids and tonsils producing hypertrophic reaction and secondary infections of these.

Dr. Dean's paper presented before this Society eighteen months ago showed that antrum disease is much more frequent in children than we supposed, and my own observations tend to show that the large percentage of chronic catarrhs of any severity in any age are dependent upon antral infections. Is it irrational to suppose that as our diagnostic knowledge increases and we are enabled by proper proceedings to eliminate these head infections in early life before they have reacted on the system for decades, that almost all of our disorders of middle life, cardio-vascular, endocrine, lung, central nervous, intestinal and its adnexia will to a large extent disappear.

Diseased teeth may cause tonsillar infection and from the combined toxemia resulting from the tonsils and the teeth there may result a nephritis, a hyperthyroidism, or an arteriosclerosis, which conditions may in turn affect the eye. We have been too prone to stop further investigations when we have found one localized infection, and the search for the primary infection has for this reason been discredited by some. But I am sure that this field is just in its infancy, and that each succeeding year will see more and more that idiopathic diseases will be traced to their source and the etiology and treatment cleared up. But with the increasing scope of necessary knowledge we become more and more dependent on what is known as team work.

Team work or group work can be carried on by a small group of men working together, or it can be extended to the whole of the profession of a town or community co-operating and working to a common end—the placing of the necessary diagnostic conclusions or facts in the hands of the man who is treating the case, and under his direction carrying out any operative or medical measures indicated. Many cases will have to be worked out by the small group plan, in a hospital where all are members of the same staff and have access to the patient and to the clinical records of the hospital. Many cases, however, are ambulatory; they have their own friends and fancies. If they have any dentistry, they insist upon their own dentist being consulted, they have their own family physician, their own oculist and so on, and it is with these people that we must learn to work together, not as equals in responsibility but as chief consultant and his lieutenants. If there is impending loss of eye sight after all the facts are in, the oculist is responsible for the saving of the sight and that responsibility carries with it the authority in conducting the case. This authority should be recognized by all the consultants in the case, and all treatment and advice should be submitted to the chief consultant before being presented to the patient. On the other hand if the information on the condition of the eye has been required by the internist, the neurologist, the naso-laryngologist or syphilographer as additional data to aid in their diagnosis or treatment then the oculist must realize his subordination to the physician in charge, and present all available facts to him with their significance, and not by any suggestion encroach on his authority. Only by the full recognition of this one man authority can true co-operation and the full benefit of team work be obtained. Many men otherwise well qualified to help us often hinder by their unwillingness or inability to submit to our authority as chief consultant, and our efforts are correspondingly weak and ineffectual. We ourselves are often at fault and forget that it is our main duty to lay the facts before the chief consultant of the case for his decision. Many dentists even yet consider it unprofessional, and degrading their science to pull a tooth when after careful consideration of plates and conditions the oculist considers it necessary in order to safeguard an eye. It so happens that sometimes a good man surprises us by his failure to grasp the necessity of a one man authority and a less brilliant man is most helpful by his spirit of co-operation.

This authority carries with it the necessary responsibility, and means that to act competently we must familiarize ourselves with modern medicine so that the facts and suggestions may be acted on intelligently when they are presented to us. We must know their weight and the value of the data gathered and direct those measures which will be most beneficial. Unless our hospital work takes us into very close touch with our roentgenologist and he sees our cases before and after and during operation, it behooves us to study carefully our plates ourselves, not only of the sinuses, but of the teeth also. The time spent in this study will be amply repaid by the increased knowledge it gives us of the pathology underlying these conditions. Each office should be supplied with a lighting cabinet to examine the films and these should be studied in connection with the roentgenologist's report and with the clinical findings in the case. Nothing I have learned in the last few years has been so helpful to me as the knowledge obtained by a careful study of every film I have had taken, whether of the sinuses or of the teeth.

I have reached one important conclusion from a careful routine X-Ray study of nasal infection. I find that about ninety percent of my chronic nasal infections are due to an underlying active or latent antrum infection and that many ethmoidal infections need only to have the antrum infection cleared up to get well.

In spite of all that has been written and urged in regard to tonsil infections the profession is still liable to overlook their significance. Many times we find dental infections being cleared up by the necessary loss of teeth and still keen disappointment at the result because a thorough examination has not been made of the tonsils and there are here more chronic pus pockets than several teeth could supply. Many times these pockets are deep and their presence is only revealed by a constant blush of the anterior pillar which I believe is as significant of infection as follicles showing caseous concretion.

In addition to studying his X-Ray findings the triologist is the most likely man to discover dental infections. His constant use of the reflecting head mirror illumination makes his observation on the teeth right in line while he is examining the throat. Much of this oral infection is of a nature that does not require X-Ray findings, indeed there are many infections such as overlying gums, forming pus pockets, dirty teeth and commencing pyhorrhoea which can only be noticed on direct observation and have no X-Ray findings. I have frequently found old roots remaining in people wearing a full plate above and below.

In conclusion, then, I feel

(a) That the main trend of medicine is toward the search for primary or peripheral foci of infection;

(b) Second, that these are mainly in the commencement of the alimentary and respiratory tract;

(c) Third, that the proper study of the X-ray is one of our greatest helps in unearthing these.

The X-Ray Interpretation of the Ethmoid Problem from the Clinician's View Point.*

W. P. Wherry, M. D., F. A. C. S., Omaha.

The study of Roentgenograms has passed through the various evolutionary periods incident to any new project and finally seems to be finding its proper place in our armamentarium, and the science of reading these pictures is fast reaching a plane of quite a reasonable degree of accuracy and assistance to the clinician.

To predicate this short resume of the situation from an observing clinician's viewpoint, as referable to the nose and throat, I want to go on record with this statement of fact: That the diagnostic value of the X-Ray plate is in direct proportion to the mechanical skill of the technician taking the picture and the skill and experience of the clinician in comparable observation of the picture with actual findings clinically and surgically. To qualify or define this position a little better, I feel the best interpretation can only be made by the fellow who studies the plate, studies the field involved, performs the operation and sees and knows what he sees, then returns to the plate to check his ultimate findings.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

As a prelude to the basic theme involved in this paper and with your indulgence, I am going to digress for a moment and review briefly the anatomy and certain fundamental problems concerned in the gross pathology incident to the ethmoid labyrinth.

Briefly, and as you know, the ethmoid consists of a group of cells some 12 to 20 in number arranged into an anterior and posterior group.

The area involved averages from 1/4 to 1 1/2 inches in length—1/4 to 5/8 in vertical dimension and perhaps 1/8 to 1/4 in transverse area. The site being on the lateral wall upper 1/2 paralleling the general direction of the nasal cavity. Directly behind the posterior ethmoid cell lies the sphenoid sinus.

There are certain problems in pathology that bother the clinician much—First, the simple oedema that involves the middle turbinate and ethmoid wall. We would like to know if this is superficial or deep. Heretofore our history of longevity plus reaction to treatment have determined this; however, if the Ray could differentiate for us, then the diagnosis, and plan of conduct for that patient would be simplified much. As our study of pictures coincident with our study of the case increases our ability of interpretation, I am sure much valuable time, heretofore lost, will be saved the patient. I am convinced that as more light is thrown upon these indefinite problems, just that much greater will the field of usefulness of the Ray be enhanced and I personally feel this advancement is to be made largely by the clinician.

A short step farther and we are confronted with that broad indefinite chronic ethmoiditis non-suppurative, or more precisely, the chronic hyperplastic ethmoiditis. Here the X-Ray assists us much to define the location involved and depth. To enlarge a little; hyperplasia is defined as an increase of the fibrous connective tissue elements of living anatomic structures, due to a low grade of localized inflammation. Delafield and Prudden state it is associated with long continued chronic congestion of the part.

Hyperplasia is a non-suppurating process. Skillern, Beck and many others have demonstrated this fact. Welch has proven that in hyperplastic specimens of the ethmoid bones there was present thrombosis of many of the smaller veins. To determine these facts, plus the definite situations most involved, is desirable before operating. A hyperplasia of the ethmoid bone as a rarefying osteitis associated with inflammatory swelling and fibrous thickening of its lining mucosa causes more or less progressive oedema without pus, involving more and more bone including laterally the walls. Owing to the fact that the middle turbinate is attached to the body of the ethmoid by a very narrow strip, this hyperplasia may be and usually is, confined entirely to the ethmoid, and in only a small margin of cases does it traverse this isthmus to the turbinate.

Because of this known fact, it is sometimes quite impossible to determine the presence of, or the extent of this invasion simply from the intra-nasal inspection. This imbalance in the relative ratio between cause and effect makes an accurate picture, a necessity to one who wishes to practice accurate scientific nasal surgery, and the intrinsic value of the Roentgenologist then is determined by his ability to produce a good picture and display a truthful insight into the pathological status of this labyrinth.

The usual method of Roentgenography of the accessory sinuses consists in directing the rays through the sagittal axis of the skull and intercepting them on a photographic plate or film placed in front of the patient's face. The pictures obtained in this manner, delineate the normal and diseased frontal sinuses and antrums in an entirely satisfactory manner; but on the other hand the ethmoids and sphenoids are not satisfactory.

Full profile or bi-temporal positions give important information concerning topographic anatomic relations, but since the cell outlines of one side are directly superimposed on those of the other, they are comparatively useless from a pathological diagnostic study.

Upon the advice of Iglauer, I have for some time been insisting that my ethmoid and sphenoid pictures be taken in the oblique position of Reese and Goosman, the technical description of which I will leave for Dr. Overgaard to describe. This position not only permits a careful outline of every part of the ethmoid labyrinth, but gives the sphenoid a positive equation never before attained, at least for me. I will say, that in placing for this position, the technician must be most careful and accurate. If this necessary care is taken and the manipulation of the ray is correctly timed, the possibility of good plates, careful study and splendid results are unlimited. To the technician, I will say the time has long since passed where careless work at the machine will be tolerated.

As stated early in the paper, the field of usefulness of the Ray as applied to the frontals and antrum has been much better understood, and my thoughts are pertinent to the ethmoid and sphenoid, because personally that field, heretofore, has been most unsatisfactory.

The following slides with reports, will illustrate my thought.

In my work I study the pictures, study the field, and if surgical interference is undertaken, study most carefully the situations involved and type of pathology found; then return to the plate to check. The gratification from this kind of experience is most exhilarating, and as it increases, I can see things in pictures now, that were never noticed before.

There is no doubt at all but that the accurate placing of good pictures has made nasal surgery not only more radical but much more thorough and efficient and consequently the better the return to the patient.

In conclusion, I will say it is so easy for the Roentgenologist to report the ethmoid and sphenoid cloudy, and let it go at that. The present day rhinologist, who endeavors to practice proper nasal surgery, wants more information than this. He wants the type and situations precisely stated, and if he studies his plate right along with the operation he will soon learn the relative merits of the fellow who has taken the picture.

Discussion.

Dr. A. P. Overgaard, Omaha.—In making these roentgenograms, it is very essential that you immobilize the head and have the object absolutely rigid, as you have to deal with such fine lines. Otherwise you are liable to have a blurring. We do the work with a double screen and try to put both the right and left sides on an 8x10. We do it in oblique position by projecting the sphenoids and ethmoids into the orbital cavity. If we don't, our malar bone blots out the other two.

There is one thing an examination of this brings out, and that is an infected wisdom tooth. Molars can sometimes be shown where there is focal infection which indirectly may have some bearing on our trouble above, and it is a good point to pick up.

The technique, as far as the exposure is concerned, is a matter of detail and working it out, and is not any more difficult than ordinary head work, except that after you get your films it is a matter of studying them out and finding where you are, and getting together with the nose and throat specialist, because it is important to know you are either right or wrong. The X-ray is not 100 per cent perfect, but it can prove up in a great number of these cases. Be sure you have your positions right and you can make a fair reading after you become familiar with the films.

Dr. W. H. Mick, Omaha.—We have all been working along certain lines, and especially during 1915 and 1916 we were trying to get more definite views of the sphenoid. It was Dr. Law who got this out very well, and that was from the perpendicular. The ethmoid is as easily demonstrated as the sphenoid. Take lantern slide number two or three. You have here the ethmoids, numberous small cells, peculiarly arranged. Take a perpendicular view so as to throw the sphenoids just back of the lower teeth. This gives you the sphenoids side by side clearly demonstrated. Same can be done with the ethmoids. However, the ethmoids are clearly demonstrated by antero-posterior and lateral view at right angles.

Personally, I do not fancy the oblique view as far as the ethmoids are concerned. I am satisfied that the technique as developed by Doctor Law of the Manhattan Eye, Ear and Throat Hospital answers every requirement of the most careful rhinologist. It goes without saying that the plates must be carefully read, and in this way some of the errors of foreign shadows will not lead the operator astray. There is no objection to adding the oblique view, but the three views; perpendicular, antero-posterior and lateral are essential, and all that is ordinarily required.

Dr. C. H. Ballard, Omaha.—I want to take issue on the oblique view. As I understand it, the septum between the right and left ethmoids and sphenoids is about as thin as paper. How one can get an oblique view without superimposing the right upon the left, or vice versa, is more than I can see. I have been experimenting with skulls, and often one sphenoid will almost entirely surround the other. I have done work with the half skull, and in an oblique view the sphenoid will overlap the posterior ethmoids. To my mind it is absolutely impossible to get the right separated from the left to a desirable degree in this position. If you are going to use the oblique view, I would say you should also add the view with the forehead and nose on an inclined plane of about 22 degrees, which separates your right side from the left, although the posterior cells are superimposed on the anteriors. If you want to separate them, place the plate under the chin and have the central ray come down straight from above. That throws the sphenoids clear and separate and it is the only view I know of in which you can separate them, unless you take it with the patient's shoulders elevated, head tilted backward and rays directed from beneath the chin through the head to the X-ray plate.

The different positions should be given more study and the roentgenologist should co-operate closely with the rhinologist.

In time we may get this down to a basis where we can distinguish the different pathological conditions more accurately than at present.

Dr. John B. Potts.—I wish to compliment the essayist on the work presented today. It seems to me it is a step forward and the work done is very important. No doubt they haven't reached the point of perfection, but it is a step in the right direction when we begin to try to make an absolutely accurate diagnosis. The very fact you are working along that line means we will get to know more about the science of the head than ever before. Five years ago if somebody had appeared before this Society and had begun to talk about technical operations on the sphenoid and ethmoid, most of the doctors here would not have known what he was talking about; so we are making progress, and are grateful to the essayists for the work they have done.

I think the stand Dr. Ballard has taken is a good one, and I would like to have Dr. Wherry explain how he is going to make the differential diagnosis.

Dr. A. F. Tyler, Omaha.—I wish to congratulate Dr. Wherry on his excellent paper, and for pointing out to us the interesting facts he has about sinuses.

There is one question which I would like to ask him, and that is in some of these slides, why it is there is a white shadow on the screen which shows over the posterior sphenoids on one side, and on the other view shows below the sphenoids? Why does he interpret this as infection in one instance and in the other does not?

Dr. Wherry.—I hesitated somewhat in presenting this paper for fear these X-ray fellows would take exception.

I will say, however, that heretofore the plates that have come to us from the ordinary technician have not been satisfactory because they have not told us the character of the changes evident.

In answer to Dr. Potts' question, in purulent infection there is going to be a destruction of the bone, and in this instance, I do not believe it would be hard to determine between the opaque area of pus, and the characteristic haziness of hyperplasia.

I think Dr. Tyler's question is absolutely a question of technique. If you have part of the sphenoid blotted out and the upper part clear, I believe it is fluid pus. The question of technique is a very difficult one. With many of our plates we have trouble in locating limitations.

I am here to ask the technicians more than ever to use all their judgment and skill in getting the positions right. I believe it is the clinician's part to make the interpretation.

A Simple Office System for Measuring Astigmatism by the Subjective Method.*

J. M. Banister, A. B., M. D., Colonel U. S. Army, Retired, Omaha.

The subject of refraction is one of special importance to the ophthalmologist since the detection and correction of refractive errors constitute a large portion of his office work, and his success in relieving asthenopia and promoting good vision by the prescribing of appropriate lenses is generally the foundation of his reputation with the laity.

With these facts in mind, I shall attempt to present a practical discussion of the detection and correction of that important refractive condition, astigmatism, limiting my remarks on diagnosis to the subjective method of examination in regular astigmatism.

Astigmatism, as every oculist well knows, is a difference in the refraction of the meridians of the eye, the refraction varying regularly from the meridian of least to that of greatest refraction.

These meridians of greatest and least refraction are at right angles in regular astigmatism, which is the type under discussion, and are called principal meridians.

The cause of the astigmatism in any given case is chiefly due to asymmetry of the cornea, but not solely, as there are five refractive surfaces to be taken into consideration, namely, the anterior and posterior surfaces of the cornea, the anterior and posterior surfaces of the lens, and the hyaloid membrane, and these surfaces may modify the results of an asymmetry of the anterior surface of the cornea to quite a degree. This fact furnishes a reason for the loss in popularity of the use of Javal's ophthalmometer, and similar instruments, which measure only the asymmetry of the anterior surface of the cornea. The careful ophthalmologist can not ignore the effect of the other refractive surfaces mentioned, and consequently he must obtain the combined refraction of all these surfaces for each principal meridian in order to insure success in properly correcting his astigmatic cases. The character of the astigmatism depends upon the position of the plane of the retina at the macula lutea with reference to the foci of the principal meridians.

It should be noted that in this discussion the static refraction is alone considered with the test object at infinity—20 feet.

In simple hypermetropic astigmatism, the focus of the meridian of greatest refraction is on the retina, the focus of the meridian of least refraction behind the retina.

In compound hypermetropic astigmatism, the foci of both meridians are behind the retina.

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*Read before the Sioux Valley Eye and Ear Academy, at Omaha, Neb., July 22, 1919.

In simple myopic astigmatism the focus of the meridian of least refraction is on the retina, and that of the meridian of greatest refraction in front of the retina.

In compound myopic astigmatism, the foci of both principal meridians are in front of the retina.

In mixed astigmatism the focus of the meridian of greatest refraction is in front of the retina, and therefore myopic, while the focus of the meridian of least refraction is behind the retina and hence hypermetropic.

Bearing these facts in mind, it is self-evident that the scientific and accurate method of ascertaining the type and degree of astigmatism by the subjective method, should be one which would enable the ophthalmologist to determine the principal meridians, and measure both accurately by spherical lenses.

Having determined the principal meridians, and having accurately measured the refraction of each, the degree of astigmatism will be the difference between these findings, and the axis of the corresponding cylinder will be in the position of the meridian of greatest refraction in hypermetropic conditions, and will harmonize with the meridian of least refraction in myopic states.

The simple subjective method which I am going to recommend, is founded upon these principles in optics. It has been referred to by many writers for many years, and hence I cannot claim any originality in bringing forward a new method. I have, however, been using this method for many years as a routine office system, and think that I have evolved a rapid and practical subjective system for constant use.

The diagrams used are the well known clock face, and one or two circular disks to be superimposed. These diagrams also were in use for many years before I began the study of ophthalmology.

In plain language the system which I have followed is founded upon the teachings of many ophthalmologists, and I only bring it forward now as I feel that it is a most satisfactory one, and when used in the daily routine of practice in a specific and definite manner, is of the greatest practical importance. This is my excuse for touching upon this matter.

The following description gives an idea of the method:

1. The accommodation must be temporarily suspended by a cycloplegic in individuals under forty years of age.

2. The patient is then required to look at the test letters at 20 feet, and his general refraction determined by spherical lenses. The best vision possible with spheres is obtained.

3. Armed with the sphere so determined, he is directed to look at the clock face diagram, and to note any difference, if such exists, in the radiating lines. The position of the radiating line which he sees most distinctly can be designated by its position with reference to the hour markings on the clock face. Stronger spheres are gradually added in sequence until the dial is "fogged." The patient will then designate the radiating line or lines which he sees best.

The spherical strength should now be increased by slight increments as long as this line is fairly visible, though blurred. Then apply over the clock face a disk showing the lines in the form of a cross, and place one arm of the cross in the position of the line of the clock face, which is most easily distinguished. Turn this arm of the cross gradually to either side until the exact angle at which it is best seen, is determined. In the case of hypermetropic states, this will give the meridian of least refraction in the eye, which is at right angles to the line seen on the dial, and in myopic conditions the meridian of greatest refraction, and will fix the position of the axis of the correcting cylinder, for it is a law of optics that lines in any position are seen through the meridian of the eye at 90° to such position. Thus one sees lines at 90° through the horizontal meridian of his eye, lines at 60° through the 150° meridian, etc.

Now having located the principal meridians, accurately measure the refraction of each with spheres. In simple astigmatism, one of the principal meridians will, of course, be emmetropic, and the other hypermetropic, or myopic, as the case may be. In the case of compound hypermetropic, or myopic, astigmatism, deduct the strength of the weaker sphere required from that of the greater, and the result will be the astigmatism present.

Permit me to give a practical illustration. With the accommodation controlled by a cycloplegic in a patient under 40 years of age, let us suppose that with + 1.00 D S, he sees distinctly the spoke on the dial at 60°, other lines being blurred. Then have him look at the spoke at 150° and find the sphere that will give the best result. Suppose such sphere to be + 2.00 D. Then + 2.00 will represent the general hypermetropia, and + 2.00 D. Cyl. Ax. 60° will be the astigmatism, and the formula for the static refraction will be + 2.00 D. S. ⊂ + 2.00 D. Cyl. Ax. 60°.

The same method applies in myopic astigmatism of the compound variety.

In simple astigmatism one sphere only will be required, as one principal meridian must in such case be emmetropic, so that in this instance the sphere used will designate the amount of the astigmatism, and the axis will be located just as in the compound varieties.

In mixed astigmatism, the principal meridians are found and measured by spheres, also one of the spheres determined upon being plus and the other minus in the nature of things.

Suppose that the vertical lines on the clock-face are seen best with + 2.00 D. S. and the horizontal lines with — 1.00 D. S.; then the axis for the plus cylinder must be at 90°, and for the minus cylinder at 180°.

The difference between the foci of the principal meridians in this case will be expressed in diopters by 3 D, and this then will be the astigmatism present when we use a sphero-cylindrical correction, which is customary. The formula may be written with either the plus or minus sphere, and the 3 D cylinder will be minus if the plus sphere is used, or plus if the minus sphere is employed.

Thus:

+ 2.00 D. S. ⊂ — 3.00 D. Cyl. Ax. 180°.
or
— 1.00 D. S. ⊂ + 3.00 D. Cyl. Ax. 90°.

To sum up in a few words, I shall give the following working rules:

1. In hypermetropic and myopic astigmatism, find and measure with spheres the principal meridians. In simple astigmatism one principal meridian will be emmetropic, and hence the spherical strength in the case of such meridian will be zero. Deduct the strength of the weaker sphere required, which in simple astigmatism will be zero, from that of the greater, and the difference will be the degree of the astigmatism. Place the axis of the correcting cylinder at the angle of the lines on the dial seen with the strongest sphere.

2. In the case of mixed astigmatism, find and measure the principal meridians with plus and minus spheres, using the clock-face diagram as before. Then add the spherical findings without regard to the algebraic signs for the astigmatic cylinder, if the correction is to be made by a sphero-cylinder.

If the plus sphere is used, the cylinder found as indicated will be minus with the axis in the direction of the line on the dial seen with the minus sphere. If the minus sphere should be used, the cylinder will be plus with the axis of the cylinder corresponding to the angle of the line on the dial seen with the plus sphere.

Crossed cylinders may be used in the correction of mixed astigmatism, the axis of the plus cylinder being placed at the angle of the lines on the dial seen with the plus sphere, and that of the minus cylinder placed in the direction of the lines on the clock-face seen with the minus sphere. The cylinders, in such case, will correspond to the strength of the spheres, plus and minus, respectively, and of course, there will be no addition of the spherical findings to determine the strength of the cylinder required, as in the sphero-cylindrical condition. The axis of the crossed cylinders will, of course, be placed at right angles, and corresponding to the principal meridians.

This combination of crossed cylinders correcting mixed astigmatism gives a flatter field, but the sphero-cylindrical correction is almost universally used as far as my observation goes, and furnishes a much easier task for the grinder.

The Types of Operation Suitable for Resection of Malignant Growths of the Lower Sigmoid.

J. E. Summers, M. D., F. A. C. S., Omaha.

It has been my lot to have carried out practically all of the forms of operative procedure which have been recommended for the removal of malignant growths of the large intestine by our predecessors and contemporaries.

Ewing states, "That at the Pathological Institute in Vienna, between 1870 and 1895, 543 intestinal carcinomas came to autopsy, of which 164 were in the colon and 162 in the rectum, while only 7 were found in the duodenum and 11 in the ileum (Nothnagle)." Other statistics point in the same direction, about 60% of intestinal carcinomas and 5.25% of all carcinomas occur in the rectum.

Of colon carcinomas out of a series of 279, 47 were in the caecum, 22 were in the ascending colon, 19 at the hepatic flexure, 44 in the transverse colon, 31 in the splenic flexure, 10 in the descending colon, and 124 in the sigmoid. About 42% of all cancers of the colon are found in the sigmoid.

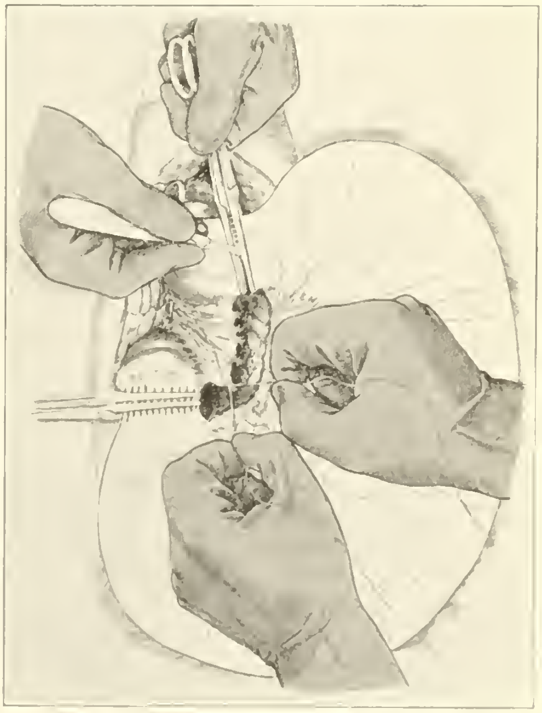
There are a few principles to be first considered in the treatment of cancer of the intestine, and they are based chiefly upon the time of the seeing of the patient by the surgeon. The time element includes the age, general makeup and health of the individual, and the symptoms produced by the presence of the malignant growth.

In the aged and feeble when any operative procedure is very likely to prove fatal or merely prolong for a short time a life nearly spent, only temporizing measures are proper —surgery is out of place. In the relatively vigorous, surgery is always to be considered and the type of surgery in its immediate or later application depends upon the mechanical and secondary symptoms produced by the malignant growth.

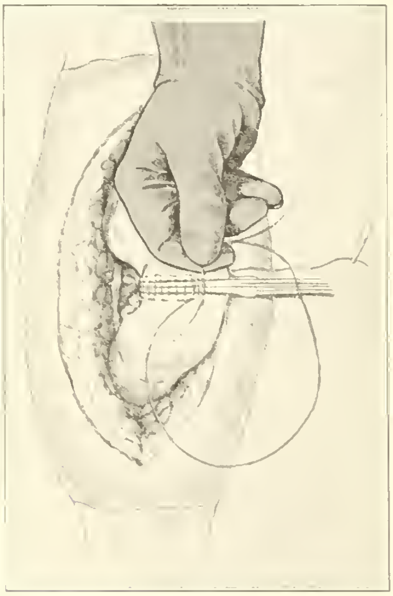
Cancer of the intestine is only accidentally discovered before it is evidenced by the symptoms of an increasing obstruction, the meaning of which not being appreciated until too often acute symptoms of obstruction develop. It is in the presence of the latter condition that good judgment is needed in the handling of the patient. In the earlier condition, that of a beginning or developed chronic obstruction the handling of the patient is chiefly one of operative mechanics.

If acute obstruction has supervened upon a chronic obstruction due to a cancer of the intestine, no matter when seen, early or late, there should be only one line of procedure followed, i. e., the opening and draining of the bowel at some point proximally near or distant from the obstruction, leaving for the future consideration as to the removal of the obstructing growth. In other instances one may generally consider the removal of the growth as a primary procedure.

The mortality from excision of obstructing growths of the colon during the stage of acute obstruction approaches 100%. I learned this from personal experience years ago. My most brilliant results have followed when I have, first, relieved the obstruction by a cecostomy, second, removed the cancer or growth through an incision as far away from the cecostomy opening as possible, third, closed the cecostomy opening after the continuity of the intestinal resection has been



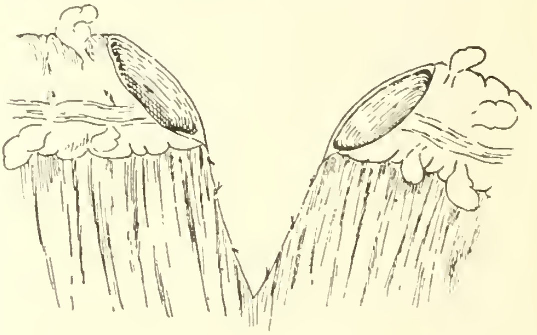
securely established. A cecostomy not only drains the colon but more immediately important, relieves the accumulating toxins of the small bowel. An opening in the colon close above a growth, especially in the sigmoid does not do this promptly and in bad cases it never does. I desire to emphasize the general principles so briefly outlined, because, even in this our boasted day of medical efficiency many lives are sacrificed by a too common neglect of their observance.



In the alloted time it would be impracticable to discuss all of the technical details of resection of the colon when cancer occurs, except to make the broad statement that mobilization may be carried out so that axial (end to end) anastomosis may be made. It is a relatively rare occurrence also when lateral anastomosis cannot be done provided there is sufficient healthy bowel above the rectum for its performance. Mechanical aids such as the Murphy button have practically been abandoned in surgery of the large intestine. I used the button a number of times, and upon reference to my notes, find that I published in the "Omaha Clinics", my first successful resection of the lower sigmoid, done in June, 1894, (25 years ago), by the aid of the button.

Other experiences taught me the dangers of the button in intestinal surgery when the contents of the bowel were not liquid. I have not used it for years. From a scientific stand point based upon our knowledge of the operative treatment of cancer in other parts of the body, for example the breast, the best results are obtained by going wide of the cancer growth, removing everything as far as practicable in the lines of the central-leading lymphatics. So in cancer of the large bowel the same principle should be followed, carefully bearing in mind the integrity of the blood supply of the segments to be anastomosed. Methods of resection which do not carry out this principle are not considered scientific, yet I would advise that if the patient's condition is not good we should limit the resection to the area supplied by a mesentery, just outside of which enlarged lymphatics were not palpable. In fact this was the earlier practice, and I have patients alive and well in whom this was the technique followed as far back as 20 years.

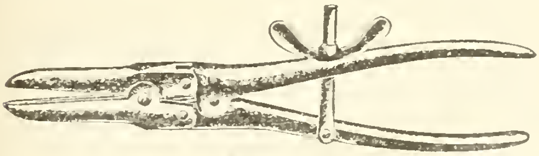
In annular carcinoma, the napkin ring type, little or no lymphatic enlargement is commonly palpable and I do not consider extensive resection always wise (although this is not in line with our practice elsewhere, for example in cancer of the breast).



There are a few practical points to be considered in resection and anastomosis of the lower sigmoid which I think of importance, some are of more or less common knowledge.

First—After delivery of the tumor and its proper isolation and the application of occluding forceps which enclose likewise the boundaries of the mesentery to be removed, the mesentery should be divided before the bowel is divided and its divided edges protected against any possible contamination from within the bowel.

Second—The bowel should be divided at an angle of 45 degrees to its transverse diameter both above and below as recommended by Lockhart-Mummery, (Fig. 1), thus ensuring the integrity of the nutrition of the cut edges. More bowel being removed from the periphery away from the mesentery, there will be no leakage from the line of suture due to sloughing from want of nutrition as sometimes occurs when the bowel has been cut straight across.


Angiotribe.

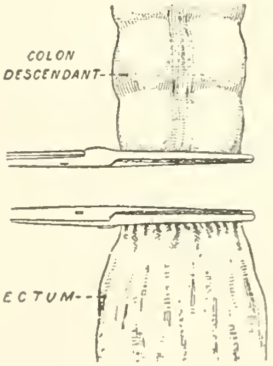
The tendency of the day is to do axial, i. e., end to end anastomosis because in some instances sacculation of the ends takes place after lateral anastomosis. I do not share this anxiety. In some quarters axial anastomosis of the small with the large intestine is advocated, and practiced. When there is not sufficient bowel in the segment for a secure lateral anastomosis or axial anastomosis I advocate the Rutherford-Morrison method of invaginting the upper segment into the lower by means of a button or bobbin fastened to the upper segment and attached to a large rubber tube passing out of the anus. The invagination is made by traction upon the tube by an assistant while the invagination is secured by suture. Balfour advises to do the Morrison operation by the use of a large rubber ½-¾ inch tube without a button or a bobbin. The suturing of the invagination is a difficult procedure. I have practiced the Balfour technique successfully upon a man in our University Hospital. In such instances it is either this technique or an artificial or incontinent anus.

In a paper which I read before the American Medical Association in Chicago, in June, 1908, and published in the "Journal," I advocated the invagination of a limited annular gangrene of the small intestine versus resection and reported three successful cases. Two were cases of gangrene due to hernia, and one was a local destructive injury to the bowel in which there were 12 perforations—a gun shot injury.

The technique of doing the invagination was explained and in further comments I emphasized the advantages to be obtained by crushing the bowel with an angiotribe forceps and in freeing the mesentery before making the invagination. I have employed the technique in other instances since. In the latter part of my paper I made the statement that, "There are possibilities of usefulness of the technique described by extending its employment to the treatment of annular stricture of the intestines, small and large. These strictures can be removed per vias naturales after devitalizing the bowel above and below with an angiotribe forceps and invaginating the devitalized diseased structures into the bowel to be passed off as an intussusceptum.

There are also other possibilities along the same line,—for example, in relation to resections." It is with a great deal of pleasure and interest that I note this latter suggestion has been carried out and published by Girdin of Rio-de-Janeiro.

Victor Pauchet publishes in the July 23rd number of this year of the Transactions of the Society of Surgery of Paris a most interesting communication entitled "Megacolon Congenital" in which he illustrates (Figs. 2, 3, 4 and 5) and describes how he removed a congenital megacolon in three patients, using the technique of crushing with an angiotribe (Fig. 6), the bowel above and below the section to be removed and the suturing the ends together over two clamps, Ochsner or Kocher type, placed in the crushed grooves of the angiotribe before the bowel is divided with a cautery knife. The simplicity of this technique appeals to one's experience. An advantage besides is that by puckering up the crushed ribbon of the angiotribe groove before applying the holding clamps, ends of different diameters may be easily sutured together. An easier procedure than that of widening the smaller calibered gut end by cutting it in its long axis opposite its mesentery, besides we deal with a closed gut and not an open gut during the technique of the suturing.



The Roentgen Diagnosis of Peptic Ulcer.*

O. E. Liston, M. D., Lincoln.

There are two real reasons for the reading of a paper to a body of scientific men such as are assembled here. First, for the purpose of giving to you some new facts or methods worked out by original effort. Second, to present to you some facts or methods, already well established, in such manner as to make them more generally understood and more widely known. My object in presenting this paper this afternoon is to call your attention, first, to the value and importance of the roentgen examination in diseases of the gastro-intestinal tract, with special reference to ulcer of the stomach and duodenum; second, to urge upon you a more general employment of this method of examination in your study of the gastro-intestinal tract. When we remember that fifty per cent of errors in clinical diagnosis has been revealed by several thousand autopsies, and that the statistics of many roentgen workers show a much higher percentage of correct roentgen diagnoses in lesions of the gastro-intestinal tract (viz., eighty-five to ninety-five per cent), it hardly seems necessary to suggest that you should make the roentgen examination a routine part of your examination of this tract. My third object is to urge a closer cooperation between the internist, surgeon and roentgenologist. While we believe the roentgen examination is the best single method, we would not suggest the employment of this to the exclusion of other methods; but on the contrary would urge the employment of all methods. Only by the closest cooperation can we attain the best results.

Efficiency in the roentgen diagnosis of peptic ulcer has been attained only during the last few years. Much confusion has existed among roentgen workers. Many factors contributed to this. Methods of study varied. We had the continental workers on the one hand who depended largely on the roentgenoscope and the elaboration of a symptom complex on which they based their diagnosis. On the other hand we had certain American workers who depended more on the direct method of examination, endeavoring to show in every case the exact pathology present. Between these extremes we have a common ground of endeavor. We hold no brief for either method, but believe in the use of the method best suited to the case in hand. As a routine, we use both, endeavoring, however, in every case to show the lesion present. In a certain percentage of cases it is impossible to do this, and we have to depend on a symptom complex made up of indirect roentgen evidence, the history, physical examination, and clinical laboratory findings. It is in this latter class of cases that the closest coordination of effort between the internist, laboratory worker, surgeon and roentgenologist is essential.

I presume that all present are familiar with the roentgen anatomy of the gastro-intestinal tract. The roentgen diagnosis of lesions of this tract depends on the interpretation of changes from the normal in the luminal contour of the organ, therefore a thorough knowledge of the normal is essential.

The administration of some opaque medium is necessary for a visualization of the food tube. We have tried many media and have settled on the routine use of the barium-buttermilk mixture; three and one-half ounces of barium sulphate in a pint of buttermilk.

I will describe briefly the procedure as followed in our laboratory. The patient is asked to come (preferably early in the morning) without breakfast. No cathartic is given the evening before. If there is any suspicion of disease of the gall bladder or urinary tracts, roentgenograms of these regions are made before the barium mixture is administered. The patient is observed in the vertical position with the roentgenoscope while drinking the barium. The thorax is gone over hastily to note any gross pathology. He is then turned in an oblique position and the esophagus is studied while the meal is being taken, to note any sacculations, dilatations, constrictions, spasms, etc. We note whether there is any delay at the cardiac orifice. When the stomach is filled it is examined carefully, noting the position, size, type, the character of the peristalsis, the presence or absence of spasm, etc. The stomach is carefully palpated under the screen to note its mobility, the flexibility of the walls, the presence of tender points or indurated areas. The pylorus is observed; also the first portion of the duodenum—how it fills, its position, mobility, pressure, tenderness, etc. I do not lay great stress on the presence or absence of tenderness in the pyloric region. An uncomfortable sensation of pressure is normal here, and this is often described by the patient as tenderness.

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Plates are now taken. In the average case the stomach and duodenum visualize best with the patient in the prone position, the plates underneath. Often it is necessary to make exposure in other positions—vertical, laterial and oblique—in order to properly visualize the organs. In every case we endeavor to demonstrate on the plate the exact lesion present. This is often difficult to do, and may require many exposures. Not only is it necessary to demonstrate the pathology on one plate, but on a series of plates. It is the constant appearance of a change from the normal on a number of plates that makes our findings of significance. Conversely, the demonstration of a normal stomach or duodenum on one plate nullifies many plates showing deformity of contour, and makes a negative diagnosis possible. There is, perhaps, an exception to this rule. A few cases have been reported of a minute duodenal ulcer found at operation, which showed no abnormality of the first portion of the duodenum on roentgen examination. These are so rare that they may be disregarded.

A plate is again taken at the end of five hours to note any retention and to show the advance of the head of the meal, then again at the end of twenty-four hours. At this time the patient is again examined with the roentgenoscope to note any adhesions, tender points, the appendix, etc. A second meal is often given at the five or twenty-four hour periods. It may be necessary to examine the patient again in forty-eight or even seventy-two hours.

The roentgen signs of gastric ulcer may be divided into two groups—the direct and the indirect. This may be understood when we consider for a moment the character of the lesions which we try to demonstrate.

From a roentgen standpoint there are four classes of ulcers with which we have to deal. First, the small, shallow, mucous erosion and slit-like ulcer. Second, the penetrating or callous ulcer with some degree of induration. Third, the perforating ulcer. Fourth, the carcinomatous ulcer. The early carcinomatous ulcers are not distinguishable from the more malignant. We cannot distinguish, with the roentgen ray, pathology that requires the surgeon to wait for the microscopist's report before completing his operation.

The only direct evidence of gastric ulcer is the demonstration on the plate of the barium in the ulcer crater, or barium in the perigastric shadow in the perforating ulcer—the so-called Haudek's niche. On the face of it this demonstration may appear difficult, because only the outline of the greater and lesser curvatures are shown on the plate. Practically, however, it is not so difficult. Eighty percent of gastric ulcers appear on the lesser curvature. A large portion of the remaining percentage occur on the posterior surface and may be demonstrated on plates taken in a lateral position. Only in the small percentage remaining do we have to depend on the interpretation of minor or indirect signs. These minor roentgen signs, taken alone or in combination with the clinical signs, will in the majority of cases make a diagnosis possible. The more important of these minor roentgen signs are: Defect in the barium shadow, due to induration of the gastric wall; permanent hour-glass deformity; pyloric obstruction other than from new growth; spasm of the pylorus, with eight to ten-hour retention; permanent incisura; diffuse gastric spasm; altered peristalsis; lessened mobility; localized tenderness. All of these evidences may have causes other than ulcer. Careful differentiation is necessary. An indurated area may be a malignancy, or (in less than one per cent of cases) it may be syphilis. An indurated area showing a minute crater is almost pathognomonic of ulcer. The hour-glass deformity of ulcer is quite characteristic, having a "B" shape differing from the hour-glass of malignancy, the sulcus of which is nearly always central. It must be differentiated also from spasm due to extrinsic causes. The administration of belladonna or repeated examinations will in nearly all cases eliminate extra-gastric spasm. Ulcer at the pylorus with stenosis is usually easily distinguished from malignancy with its rather characteristic annular deformity. Diffuse gastric spasm, altered peristalsis, lessened mobility and localized tenderness are significant when present.

The diagnosis of ulcer of the duodenum depend largely on the demonstration of the anatomical condition of the first portion, or so-called cap. We believe that this anatomical condition can, with proper technic, be demonstrated in every case. Ninety percent of all duodenal ulcers occur in this limited area. They are usually single, but may be multiple.

The roentgen appearance depends on the age and the resulting amount of scar tissue. A recent ulcer may be so small and shallow that no marked evidence of it can be seen on the outer coat of the bowel, yet such an ulcer may give roentgen evidence out of all proportion to its size.

All ulcers cause deformity of the cap, with cicatrical contraction and often stenosis.

The mucosa of the duodenum is thin and smooth, and even in old ulcers the excavation is usually superficial and does not have the characteristics of gastric ulcer.

A certain per cent of duodenal ulcers—a very small per cent, I think—perforate. The perforation may be sealed by adhesions, or the ulcerative process may penetrate the abdominal wall, producing an accessory pocket similar to perforating gastric ulcer.

There is just one definite sign of ulcer of the duodenum. It is a constant and definite deformity of the cap, the same in every plate. This deformity may be due to ulcer, adhesions, or to pressure from adjacent organs. It is not ordinarily difficult to differentiate between these conditions. In simple adhesions the deformity is usually greater at the beginning of the examination. A constant deformity remaining the same in every plate is characteristic of ulcer and of no other condition.

The minor signs of duodenal ulcer are irregularity of the outline of the cap, hyperperistalsis of the stomach, hypermobility, spasm, five-hour retention, and apparent diverticulum of the duodenum. As in gastric ulcer, all these signs may have causes other than ulcer. When present they are of value. Associated with a careful anamnesis, physical examination and clinical laboratory findings, they make possible a definite diagnosis.

In this connection I would again make an earnest plea for a closer cooperation between the roentgenologist, the pathologist, the internist and the surgeon. This is the day of cooperation. Only by unity of effort will we attain the success in our work which we should attain.

Conclusions.

That the roentgen examination is the best single method of examination in diseases of the gastro-intestinal tract.

That careful technic is essential to success in roentgen diagnosis.

That a thorough knowledge of the anatomy and pathology of the gastro-intestinal tract is essential for a correct roentgen ray interpretation.

That a careful compilation of all the evidence — roentgenological, pathological and clinical—is desirable in every case, such cooperation making possible diagnosis that would not otherwise be made.

Discussions:

Dr. C. H. Ballard: The diagnosis of gastric or duodenal ulcer is not made nearly as often now as in the past, due to the fact that before the advent of the Roentgen ray the diagnosis was made on symptoms only. We have come to know that symptoms are not always diagnostic. In fact, you can have a hyperacidity which will give you an ulcer history, and there may be no ulcer present. You may have a history of vomiting of blood, but that doesn't prove you have an ulcer. A retention proves nothing definitely. The examination of the stomach contents is not diagnostic. However, these are points of great aid and should be used always in conjunction with the Roentgen examination.

Dr. Liston did not mention screening the patient in the oblique position, although I know he does that. It is gratifying to pick up an ulcer on the posterior surface of the stomach by turning the patient in an oblique view.

Of course, we can have small ulcers of the stomach that cannot be demonstrated by the Roentgen ray, but generally we will get other Roentgen findings with them; and if the ulcer is situated near the pylorus, you will have a possible retention of food and spasticity.

I notice the doctor says he takes a plate five hours after the meal. I prefer to wait six hours; and if you find a residue at the end of six hours it is of greater value.

Another little point: A perforating ulcer that perforates the stomach into the abdomen and into the liver will show the shadow of barium in the liver moving up and down with respiration. This is typical of perforating ulcer where it enters the liver.

I enjoyed the doctor's paper very much. He covered the subject thoroughly, and it is a large subject. He did not mention anything about ulcer in the second and third portions of the duodenum. It is also possible to demonstrate an ulcer in this portion of the bowel.

Dr. Roscoe L. Smith, Lincoln: I enjoyed the paper very much, and it is one part of Roentgenology I think is valuable and satisfactory.

I agree with Dr. Ballard about the interpretation of some of the findings. For instance, the hyperperistalsis or other secondary manifestations can be due to a functional affair as well as that produced by pathology, so it has been my practice not to report an ulcer unless I can demonstrate the ulcer itself. When these secondary things exist, report them, whether spasm, hyperperistalsis, etc. I think they are valuable findings to know and to communicate to the clinician, but I have been in doubt as to placing much importance upon them as diagnostic features, unless you can find the ulcer itself, which, as Dr. Liston has said, must be constant over the entire examination.

Dr. R. W. Fouts, Dawson: I enjoyed the paper very much.

In connection with Dr. Ballard's remarks as to hyperacidity, pain point and other clinical symptoms of ulcer, that they could not be relied upon solely: I would say that without these symptoms you might hesitate, unless you see your perforation and make a diagnosis from the X-ray. While undoubtedly the X-ray is of paramount importance in these things, it is like Colonel Martin used to say to us relative to laboratory findings: "If your clinical symptoms do not warrant the laboratory findings, to h—l with the laboratory!" So if our clinical symptoms do not warrant the X-ray findings, the same might be said.

Dr. Liston: I desire to thank the doctors for their discussion of my paper.

As to Dr. Ballard's point about screening the patients in the oblique position, I am glad he mentioned it, because I neglected to do so. As a matter of fact when we are screening a patient we turn them in any position that will better enable us to study the stomach.

In regard to taking a plate at the end of six hours instead of five hours, I may say that with the buttermilk barium mixture I believe the normal stomach will be empty in five hours, although I would not consider a small residue at the end of six hours necessarily pathological. If I note at the time of my first study that the stomach is emptying rapidly, I will make exposure in two, three or four hours as I deem necessary. If I find retention at the five-hour period, I make observations again in eight, ten or twelve hours as the case may be. I am a firm believer in using plenty of plates.

The roentgen diagnosis of peptic ulcer is a large subject and can be covered only briefly in the time at my disposal. I have tried to discuss the more important points. Many things have been omitted. The subject of concurrent gastric and duodenal ulcer for instance, I did not take up because it is a subject for a paper in itself.

If I left the impression, as mentioned by Dr. Smith, that hyperperistalsis was a major sign, I did not intend to do so. I consider hyperperistalsis a minor sign. It may be produced by conditions other than ulcer, as I mentioned in my paper. I think I emphasized the importance of eliciting direct signs when possible rather than depending on the elaboration of symptom complex of minor signs.

The discussion of all of the doctors emphasized this point, I think, and it is one point that I wanted particularly to bring out—that is, the need of closer cooperation in our study of cases.

The Comprehensive Examination of the Stomach and Duodenum.*

John W. Shuman, M. D., Sioux City, Iowa.

The disease that particularly attacks the stomach and duodenum is ulcer. Because the stomach is the alarm clock of the abdomen many other diseases simulate gastric and duodenal ulcer until a thorough examination of the patient is made. In this paper we will deal with those things only which rule for or against ulceration of the mucous membrane of the stomach and duodenum. The methods of diagnosis which are employed in a given case complaining of stomach trouble are:

First—The history and physical examination.

Second—The special technic, namely:
  a.—The braided silk cord test.
  b.—The duodenal tube work.
  c.—Roentgenology.

History and Physical Examination

If in a careful history such subjective symptoms as "sour belching" (hyperacidity), "hunger-pain and food-ease", "the spitting of watery fluid" (hypersecretion) are complained of an ulcer of the gastro-duodenal area is to be suspected and differentiated from chronic cholecystitis, pancreatitis, appendicitis, nephritis, etc., and their complications. A truthful history will help greatly in the differential diagnosis of these.

The physical examination should be a thorough, "hair to toe nails" procedure. Nothing should be passed up. Focal infection and pulmonary tuberculosis are found so often in the "ulcer patient" that they seem to be causative factors. If there is a tender duodenal, pyloric or gastric-point the suspicion of ulcer is made stronger. One can only suspect gastric or duodenal ulcer from the history and physicial examination, it takes special work to prove this suspicion right or wrong.

Special Technic

A number of tests that were formerly used I find no use for. For example, I have discarded the technic for occult blood in the stool as unreliable on account of so many other than gastric sources of bleeding and unnecessary if we locate the bleeding point by a more reasonable method. Gastric analysis is another point of technic that is mighty unpleasant to the patient and yields no data that cannot be obtained by the findings of the duodenal tube. For examining for a bleeding point and the locating of it, a. and b. have proven very satisfactory to me.

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*Read before the Sioux Valley Medical Association at its annual meeting held in Sioux Falls, S. D., July 16, 1919.

a.—Braided Silk Cord Test

For the finding for or against active ulceration nothing is easier or more accurate than the No. 14 braided silk cord and lead ball test.

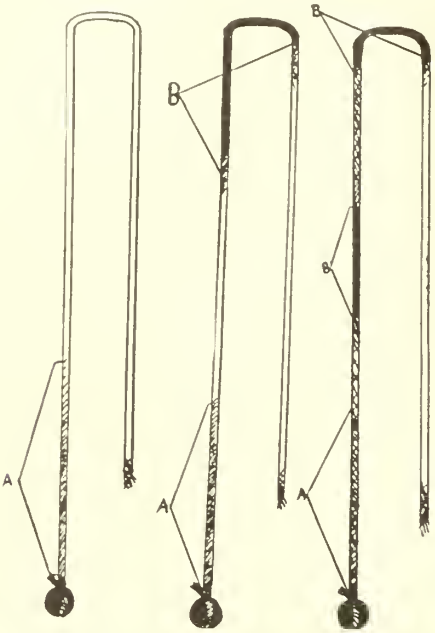


Fig. 1. Fig. 2. Fig. 3.
A. Bile stain.
B. Blood stain.

Here are a number of illustrations showing (1) a negative, (2) a single positive, and (3) double positive blood stain. The second and third were operated upon and the findings substantiated. I have used this test for seven and one-half years, first reporting it before this Society in 1914, and publishing it in the St. Paul Medical Journal, April, 1914, and have yet to find it inaccurate or objectionable. Its use as stated is easy. The interpretation of a blood stain is bleeding from a raw surface. In a measure the bleeding point can be located. The clean cord finds against active ulceration.

b.—Duodenal Tube

The use of the duodenal tube is quite necessary in many cases consulting for differential diagnostic work. By using it carefully and observing one can tell when the bulb passes into the duodenum. If blood (bright red shreds) is aspirated prior to the bulb passing out of the pylorus, ulceration on the gastric side is evident. If after passing the pylorus blood is aspirated, an ulcer on the duodenal side of the pylorus is just as evident. By securing the duodenal secretions and examining them one can also tell something of the biliary and pancreatic secretions. An absence of either speaks for obstruction of its duct.

c.—Roentgenology

With the aid of the Roentgen ray and barium we can see and study the stomach and duodenum. No gastric examination is complete without the use of the Roentgen ray. Just so long as we withhold from our patients the necessary technic in examination, on account of expense or what not, just so long will ill health be enjoyed, needless and injurious exploratory operations performed and incipient cancer go unrecognized.

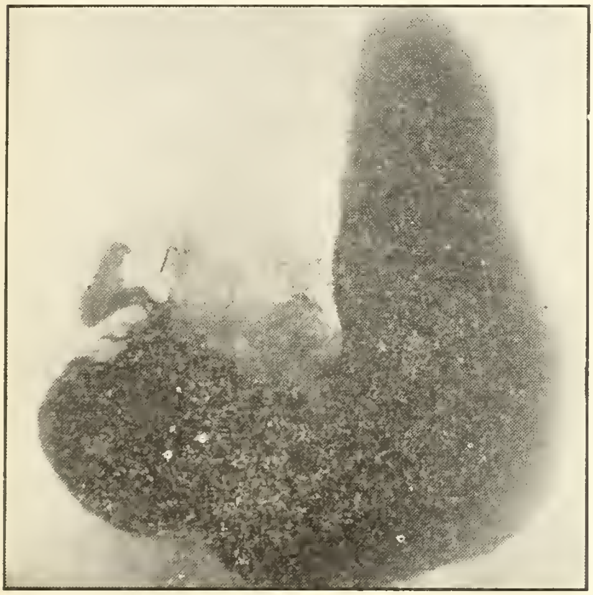
The plea is made that a certain technic be adopted as to meal, time, apparatus, method and study by the observer. In other words a standardization of technic should be made so that comprehensive data may be secured and the use of the X-ray helped rather than hindered.

The technic I use in connection with stomach work is to have the patient eat a slice of toast and drink a cup of coffee for breakfast (7:30 a. m.), no previous cathartic administered. The patient reports at the office at 9:30 a. m. All clothing is removed and a buttonless gown put on. The patient is placed behind the screen in the vertical position. Sixteen to thirty-two ounces of butter-milk containing four to six ounces of barium (well mixed) are ingested. One is able to see the esophagus as the opaque meal passes down and the stomach fill. Filling defects, abnormalities in organ outline, if present are immediately radiographed for study and record. Observations are made as often as necessary, generally at three and six hours. The number of Roentgenoscopic examinations and plate exposures necessary in any given case varies. Suffice it to say that a sufficient number should be made to conclusively prove the stomach and duodenum diseased or not.

A simple rule to follow is that a constant defect in the gastric or duodenal shadow means an ulcer. Ninety-five percent of duodenal ulcers occur in the first portion of the duodenum in an area which can be covered by a silver dollar. As most stomach troubles are functional one gets acquainted easily with the negative stomach. The normal duodenum and stomach present characteristic shadows on the plate and screen, regular in shape and outline. Most ulcers of the stomach involve that portion near the pylorus on the lesser curvature or the posterior wall, which makes the field comparatively small.

Illustrative Cases.

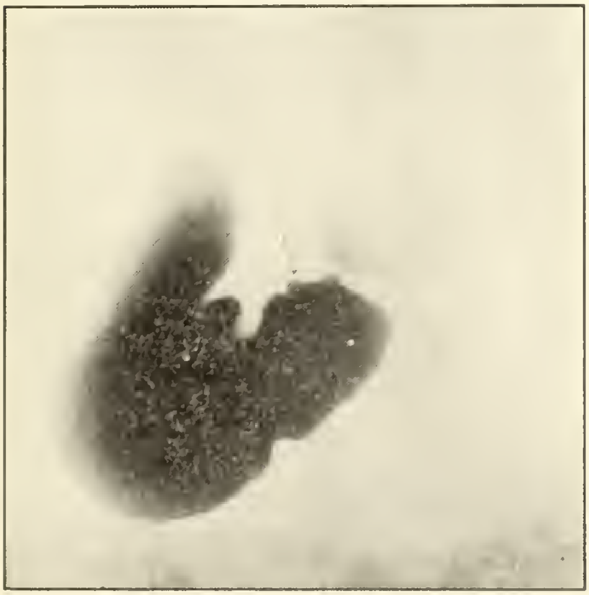
Case I. Miss K. H., age 32. Came with a history of epigastric pain for two years, worse when hungry, relieved by food and soda. Roentgen examination revealed a stomach normal in size, shape, and position with six ounces retention at six hours. The duodenum was constantly irregular and very tender.



Case No. 1.

Conc: Chronic duodenal ulcer with marked scar formation and partial stenosis. Proven at operation.

Arrows indicate deformity due to scar formation.



Case No. 2. Mrs. P. O.

Case II. Mrs. P. O., age 30. Came with history of severe pain in the epigastrium, burning sensation and sour eructations for the past year.

Roentgen examination revealed a stomach normal except for a small filling defect on the lesser curvature near the pylorus. This was constant in every plate. There was six ounces residue at five hours. The duodenum was normal.

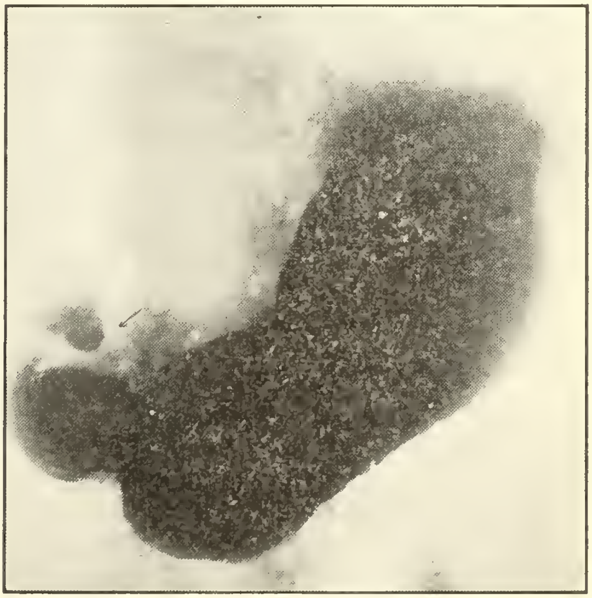
Conc: Gastric ulcer. Improved on medical treatment.

Arrow indicates site of ulcer.

Case III. Mr. H. S., age 45. Came with history of epigastric pain for three years. Food gave him relief.

Roentgen examination showed the stomach normal in contour with four ounces residue at five hours. The duodenum was constantly irregular.

Conc: Chronic duodenal ulcer. Proven at operation.



Case No. 3. Mr. H. S.

Arrow indicates site of ulcer.

The Roentgen ray findings upon which the highest value is placed are:

First—A diverticulum (penetrating ulcer).

Second—A permanent incisura opposite the site of the ulcer.

Third—Hyperperistalsis (duodenal ulcer).

Fourth—A large six-hour residue (pylorospasm).

Fifth—a deformed duodenum (duodenal ulcer).

To conclude, if a patient is examined in such a manner as just described there will be little doubt existing in the mind of either doctor or patient as to the absence or presence of gastro-duodenal ulceration. Do not understand me as stating that the gastric diagnostic technic of today is perfect, for it is not: but the stomach is much less a closed book to the profession than a few years ago and this is due to Roentgenology.

The Treatment of Acute Lung Troubles in Children.*

Enos Mitchell, M. D., Grand River, Iowa.

The treatment of acute lung troubles in children forms no inconsiderable proportion of the general practitioner's work, and it necessarily follows that the skill of the doctor has something to do with the number of little fresh mounds that we find in the cemetery when we visit it about the time the "Laylocks Blow."

As you are all aware, no diagnosis you announce carries to the heart of the fond mother such consternation as the one which says, "Your child has pneumonia." In the olden times this disease wrought fearful havoc, and is no informidable antagonist today.

When I first began practice, we all, or nearly all, gave the children some of the most outlandish concoctions we could think of, and rubbed them over with lard and turpentine, and onion juice and hen's oil, and even skunk's oil, and yet we wondered why the children hated even the suggestion of a doctor. I never blamed them. When we had them well soaked with one or all of these, we had some ancient dame conjure up from the stone age all of the miserable formulae for poultices she and her neighbors could think of, and we would say that if they did not do any good, they would not do any harm. But would they not?

Then on top of this, if it seemed not to relish either the feel or the odor, we left it a few generous Dover's powders and went home, only to meet a smooth-tongued gentleman from Mudville with some generous samples of his mud. Did you ever offend one of these oily individuals by telling him that his plasma was worse than useless? It has been done and it is no hard thing to do, either.

Did you ever case a sweet little cherub up in this modified plaster cast, thereby opening to her or him the Pearly Gates, and then go home and sleep well for the next week? Did you ever stop to think what the effect of four ounces of poultice, placed on a child's breast, would have, if the child breathed at the rate of forty respirations per minute?

Let us run it through. Four ounces lifted forty times a minute would equal ten pounds per minute, and as an hour is sixty minutes long it would be the same as lifting six hundred pounds per hour, and in twenty-four hours the child's respiratory muscles will have performed the unnecessary labor of having lifted fourteen thousand four hundred pounds, or seven and two-tenths tons. And did you wonder when the test came and the force of the respiratory muscles began to fail, and you saw the little nails turn purple and the lips livid, and when the wheel was finally broken at the fountain, did you think it was a dispensation of Divine Providence, or the legitimate effect of a wrong use of Denver Mud? And did you keep on giving your deadly expectorant, of the order of Cephaelis Ipecacuanha, to keep the cough loose, so loose that the child was drowned in its own secretion? This is NOT the way to treat acute lung troubles in children.

I am not giving you pathology, but you all know that the first stage of acute lung troubles in children is one in which there is no bronchial secretion to speak of, and that the first object of your treatment is to restore this secretion to as near its normal amount as is possible. I think there is no better agent for this purpose than the aforesaid Ipecac. It is well, in giving it, to mix some brains with it. I have given it, and still give it, but only in the first stage. You generally find in these cases a temperature of 103° or 104°, and a respiration from 30 to 40, with a loaded bowel and more or less cough. You have a respiration peculiar to this disease. It is after this order. A good inspiration, (for they feel the need of oxygen), which is held in for a longer time than normal. Then with a fair sized grunt it is expelled and immediately drawn in and held as before. You can make your diagnosis from this phenomenom alone, if you are observant, nine times out of ten.

Now what are the indications? Briefly, to relieve these symptoms. That is to restore the equilibrium of the circulation in the lungs, bring back the absent moisture to the bronchial mucous membrane, and establish a healthy order of things in the alimentary tract.

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*Read before the Botna Valley Medical Society, Atlantic, Ia., Sept. 11, 1919

If my patient is in the first 24 hours of the attack I proceed as follows: I give him 10 tablet triturates, each containing calomel and phnenolphthalein each 1-10 gr. with sugar of milk q. s. to make one grain, and have them given one every thirty minutes until all are taken, and follow them with oil. Then an enema, high up, in an hour or so if needed. It is just as well to give it anyway, as it helps clean out, clean up, and keep clean, which is a very good rule to follow in these cases. If the child has any fever I order a good sponge bath if on trial it is well borne by the patient. I also have them given what is known as a defervescent compound or something equivalent, of which veratrum is the dominating ingredient. Before I was acquainted with this compound, I used fl. ext. veratrum with enough heroin to control the cough, being careful not to give enough to produce any bad symptoms. It has a very pleasant effect when given sparingly, and I know of nothing that equals it in this class of cases. It also allows the little sufferer to breathe deeper, hence slower, and when you do this you conserve the respiratory energy for the home stretch in the same manner and for the same reason as does the rider save his horse for the supreme test. If you can save five respirations per minute you save 300 per hour, and 7,200 per day, which saving may be the difference between failure and success.

I use the defervescent in one-third larger doses than is usually recommended and instruct the angel who gives the medicine to double the time between doses as soon as the symptoms show a near approach to normal, for the reason that these drugs are potent and are apt to do harm if over given. Then when you have held the heart and respiration down for 24 or 36 hours you will find that the rales in the lungs will show a decided change for the better, in most if not all cases, and you can confidently expect that your bill in this case will be rather small and get your consolation by reflecting that you have cheated the undertaker out of a job for the time being.

You have noticed in cases treated by the expectorant plan, that the child had an immense amount of secretion in the last half of his disease. You have no doubt wagged your head when asked as to the outcome and said that "if the child could cough the phlegm up it might get well," of which there was no doubt.

But did you ever stop to think that if in the middle of the disease or a little before, you had stopped giving your expectorant and given a judicious amount of atropine and strychnine, you would not have had this vast amount of stuff in there to be coughed up by the weakened child? This was fixed in my mind by a case I saw with Dr. Myron Phelps at Van Wert, Iowa, a number of years ago, in which he suggested in his mild way that he thought it was the only way to save the boy, and as I thought the same he went on and brought the boy through.

I want to bear down on this phase of the treatment because it is most important of all in the successful treatment of acute lung troubles in children. Children do not die of fever as a rule; at least, I have never seen them do so. But they do die and frequently of too much secretion as you and I have seen them do.

Why then let Many die for fear that One May Die. Use more atropine and less expectorant in "The Treatment of Acute Lung Troubles in Children." As for external applications, I use none but a cotton jacket as a rule.

And if my patient is breathing badly I advise a mustard draft covering the cervical and dorsal spine. Why? Because you thereby stimulate the spinal nerves to a more saving sense of their duty to their owner. You thereby relieve the venous congestion of such parts of the lungs as can respond to the stimulant. Two good reasons. I use it intermittently as occasion may demand. I think the cotton jacket is superior to anything else in that it has no weight to speak of. It keeps the skin in a moist condition as a rule and prevents the child from chilling.

Should any complications arise they are treated as indicated; calcium iodide in syrup is quite a favorite with me as a finisher, but I do not give it in the early stages. As to results, I do not wish to be considered a braggart, but the main reason I am advocating this treatment is that during its use for the last 15 years or more I have had no deaths. I seldom make more than two or three visits to those seen in the first 24 hours of the disease.

Condition of Birth Registration in the State of Nebraska.

Wm. F. Wild, M. D.
Former Commissioner of Health, State of Nebraska.

In order that the profession may know the exact status of birth registration in this state, it is thought best to give an idea of the work accomplished in 1918. It shall not be within the purview of this article to dwell extensively on the importance of registering a birth, excepting to state that birth registration consists in having the child's birth reported to the state department of health, where such records are filed in a systematic manner for permanent and future reference. This is done by the physicians reporting to the local registrar, and in this connection it may be well to state that the department has a local registrar in almost every city and village within the state, and if we have none at a certain point and it would be convenient for physicians to report births at that point, this department will gladly appoint someone local registrar.

The importance of having a birth registered is overlooked by great numbers. It is something that is of importance throughout life, because at any moment some question pertaining thereto may arise. So often it happens that a birth certificate is needed, and it is discovered that the birth has never been reported.

Under the laws of the state of Nebraska, all births should be reported, but in many instances this is neglected and forgotten, thereby depriving the child of the right of a legal record, and the protection the state may afford in this direction.

Beside being a legal record, it establishes the identity of the child by proving the order of birth of children to any particular father and mother as regards age and color.

It proves the legitimacy, because when a birth certificate is on file, combined with marriage certificates, which reports this department also receives, we can trace anything that is required in this direction.

It avoids controversy, not only as regards inheritance, which may apply to many or to few, but to the more commonplace subjects, or those subjects that come up in the everyday walk of life as regards attendance at school, child labor laws, and the right to marry as regards age.

This protection applies to all alike, no matter in what walk of life. As we are passing through a condition today that very few a generation ago thought would exist, there is no telling what the future may bring. The reporting of a birth is becoming of more importance from day to day. There is hardly an individual who may not have to apply for a birth certificate one day or another.

We therefore urge upon every physician the importance of seeing that all births are registered, and when no physician has been in attendance it would be well, should physicians come across such a condition in their practice, to see that the birth is registered.

Realizing, since our birth registration in 1917 was approximately only 62% complete (or, to give numbers, this department received 25,496 births, plus 398 stillbirths, making a total of 25,894), that something would have to be done to bring our registration up to that point of efficiency where it would be of more value, we started out by checking up the local registrars to ascertain the active and inactive ones, and to be in an intelligent position to replace those who were inactive. This was fairly well accomplished at the end of the year 1918, although it should be remembered that it is a continuous process, because individuals moving from place to place will of necessity include some of the local registrars.

In 1918 we received a total of 30,655 births plus 767 stillbirths, making a grand total of 31,422.

In order to ascertain in just what localities our records were the most incomplete, we obtained the permission of the Catholic bishop of the Lincoln diocese to have the baptismal records of the churches under his jurisdiction, and also the permission of the heads of the five different Lutheran synods for the same purpose. Together with the checking up of maternity homes and hospitals taking maternity cases, the results given below were obtained, same being arranged by counties. Before giving these results it might be well to state that no record was taken of baptisms of any other than children born in 1918.

Table 1.

County	Births Checked	Births Reported	Births not Reported
Adams	76	63	13
Antelope	No check		
Arthur	No check		
Banner	No check		
Blaine	No check		
Boone	12	7	5
Box Butte	22	17	5
Boyd	8	5	3

County	Births Checked	Births Reported	Births not Reported
Brown	No check		
Buffalo	5	3	2
Burt	22	22	
Butler	129	65	64
Cass	41	33	8
Cedar	45	28	17
Chase	No check		
Cherry	No check		
Cheyenne	10	5	5
Clay	18	16	2
Colfax	8	6	2
Cuming	No check		
Custer	6	4	2
Dakota	5	2	3
Dawes	No check		
Dawson	No check		
Deuel	No check		
Dixon	20	17	3
Dodge	30	19	11
Douglas	1,162	957	205
Dundy	No check		
Fillmore	29	14	15
Franklin	14	10	4
Frontier	36	20	16
Furnas	11	9	2
Gage	180	125	55
Garden	No check		
Garfield	No check		
Gosper	11	7	4
Grant	No check		
Greeley	5	3	2
Hall	No check		
Hamilton	12	8	4
Harlan	4	3	1
Hayes	No check		
Hitchcock	No check		
Holt	No check		
Hooker	No check		
Howard	27	22	5
Jefferson	31	22	9
Johnson	45	38	7
Kearney	32	23	9
Keith	No check		
Keya Paha	No check		
Kimball	12	3	9
Knox	1	1	
Lancaster	314	263	41
Lincoln	37	22	15
Logan	No check		
Loup	No check		
McPherson	No check		
Madison	12	6	6
Merrick	No check		
Morrill	No check		
Nance	No check		
Nemaha	25	11	14
Nuckolls	49	31	18
Otoe	69	53	16
Pawnee	6	5	1
Perkins	No check		
Phelps	4	3	1
Pierce	22	8	14
Platte	21	14	7
Polk	30	23	7
Red Willow	No check		
Richardson	41	25	16
Rock	No check		
Saline	49	40	9
Sarpy	No check		
Saunders	143	96	47
Scotts Bluff	7	2	5
Seward	56	42	14
Sheridan	No check		
Sherman	No check		
Sioux	No check		
Stanton	25	19	6
Thayer	87	53	34
Thomas	No check		
Thurston	No check		
Valley	No check		
Washington	10	10	
Wayne	24	19	5
Webster	16	9	7
Wheeler	No check		
York	67	57	10

For fear that some may consider this an indication of the amount of criticism that we are trying to heap upon physicians of certain counties, we beg to state that it is realized that in certain counties, as for instance, Butler, large numbers of children are born without any physician in attendance, and on the other hand, it is realized that in some instances only one or two church records, or a church record and a maternity home record, were checked, which of course would not give an exact indication as to conditions existing throughout the county as a whole. Again, as for instance, in Madison county, the only two places checked, and this to an exceedingly slight extent, were Newman Grove and Norfolk. However, it gave us a basis on which to work.

We had the names of the parents, and after checking the records we then instituted a campaign to obtain, if possible, these birth certificates, in which we have been to a considerable degree successful.

To give an idea as to the reported birth rate of the different counties throughout the state, we have figured the population according to the arithmetical method, which means that the population of the census of 1900 and 1910 were taken, and the difference in growth for the decade divided by 10 to ascertain the approximate growth per year. This growth, multiplied by the number of years of the present decade, added to the population of 1910 gives the approximate population of the county at the time of checking same.

In this connection it might be well to state that those counties which seem to have grown beyond the normal increase in population may show a considerably higher birth rate than actual conditions warrant, while those counties that have not developed to such an extent will, of course, show a low birth rate per thousand, because we have taken only a normal growth.

For fear it may be considered that if a doctor lives in one county and sends in a certificate from another county, the certificate would be counted from the county in which he lives, we will state that all certificates are assorted at this office, and the county in which the birth occurs is given credit for same.

We do not believe this article would be complete unless we gave some indication as to conditions existing relative to complete certificates received before and during 1918. While the department has done considerable work to straighten out the matter of sending in the certificates correctly, to report stillbirths, and to see that a death certificate as well as a birth certificate is made out for a stillbirth, to see that twins are reported on separate certificates, etc., it has also done considerable work towards obtaining the names of the children.

Table 2.

County	Estimated Population	Number of Births Rep't'd	Birth Rate Per 1000	REMARKS
Adams	22,548	463	20.5	Indicating that all births were not reported.
Antelope	16,883	333	19.7	Which indicates that all births were not reported.
Arthur	.....	...	....	This county in recent years was taken from a part of McPherson County, and therefore we are unable to figure the population. However, there were 33 births reported from that county.
Banner	1,708	11	6.4	Which indicates that all births were not reported.
Blaine	2,520	67	26.5	While this county shows a reported birth rate bordering on normal, still we have considerable difficulty in getting the reports in from all physicians, and it is very questionable if there has not been an increase in population that would probably account for their figures bordering on the normal.
Boone	14,385	338	23.5	Which indicates that all births were not reported.
Box Butte	6,571	285	43.3	While Box Butte County is giving very nearly satisfactory results, it must be admitted that our figures are entirely wrong, as this county has grown considerably since the last census, and there is no way at this time, except by an actual census, to figure this population.
Boyd	10,018	202	20.1	Which indicates that all births were not reported.
Brown	8,171	103	12.6	This rate could be doubled, and we would still not have enough.
Buffalo	23,227	527	22.6	Which indicates that all births were not reported.
Burt	12,726	302	23.7	Which indicates that all births were not reported.
Butler	15,403	354	22.9	In connection with this county, it might be well to state that a reported birth rate of 22.9, based on a normal increase in population, would hardly hold good for this county, as it is the opinion of the department that we are not getting very much more than 60% of the births. However, as all physicians of this county are cooperating now with this department, we are satisfied that the future has better results in store.
Cass	19,786	382	19.3	Which indicates that all births were not reported.
Cedar	17,367	393	22.6	Which indicates that all births were not reported.
Chase	4,453	123	27.3	While we have had some little difficulty in certain parts of this county in obtaining records, on the whole they are quite satisfactory.
Cherry	13,510	232	17.1	Which indicates that all births were not reported.
Cheyenne	4,571	218	47.	There can be no question that the population of this county has considerably increased, because it would be almost out of reason to expect a birth rate of 47 per thousand of population.
Clay	15,729	322	20.4	Which indicates that all births were not reported.
Colfax	11,922	242	20.3	Which indicates that all births were not reported.
Cuming	13,782	430	31.4	While we get as good reports from this county as any, we believe, and while this birth rate seems high, still it may be due to an increase in population above normal. As a whole, we certainly have no complaint to make with Cuming county.
Custer	30,396	754	24.8	This is just a little too low, and we believe that a little more energy could probably put this county in the position it should be.
Dakota	6,780	154	22.7	Which indicates that all births were not reported.
Dawes	9,878	175	17.7	Regarding this county, we earnestly solocit just a little more co-operation. While some physicians are rendering every effort, on the other hand we believe that if a little more energy were expended, better results would be obtained.
Dawson	18,953	424	22.3	Which indicates that all births were not reported.
Deuel	1,786	73	40.8	We are satisfied that this county has had a considerable increase in population, and that our figures are by no means accurate. However, by hard work, we believe that we now have the physicians interested enough so that better results will be obtained in the future. This reported birth rate of 40.8 could possibly be cut in half and would give about all this county reported for 1918.
Dixon	12,229	202	16.5	Which indicates that all births were not reported.
Dodge	22,298	562	25.2	We trust we can get a little more energy expended at Fremont so that the year 1919 will show Dodge County doing its best and up where it should be.
Douglas	190,906	4,082	21.3	We have been told that Omaha has at least this many people, if not more, without taking into consideration the remainder of the county, in which event the reported birth rate given would be too high. We are satisfied that considerably more energy could be expended in this county. It is peculiar, but nevertheless a fact, that in checking up ma-

County	Estimated Population	Number of Births Rep't'd	Birth Rate Per 1000	REMARKS
				ternity homes we have found enormous numbers of births not reported, and while 1918 showed up considerably better than did 1917, still there is certainly lots of room for improvement, and we trust that this will be forthcoming.
Dundy	5,426	134	24.6	This reported birth rate is just a little too low.
Fillmore	14,671	342	23.3	Which indicates that all births were not reported.
Franklin	10,975	231	21.1	Which indicates that all births were not reported.
Frontier	8,572	194	22.7	Which indicates that all births were not reported.
Furnas	12,083	335	27.7	While this reported birth rate is all right, still we have considerable difficulty at times in getting reports from this county, and we are satisfied that all are not being obtained, which indicates that the population of the county has increased most probably above the normal.
Gage	30,541	708	23.1	Which indicates that all births were not reported.
Garden	3,538	163	46	The population of this county must have considerably increased, because a birth rate of 46 per thousand would be entirely out of reason.
Garfield	4,449	147	33	This is too high a birth rate, we are positive, and the population of the county must have increased above the normal. However, as a whole, Garfield County does very well in reporting.
Gosper	4,933	128	25.7	This is just a little too low, and possibly a little more energy could put this county in a position where it would indicate that satisfactory resuls are being obtained.
Grant	1,361	24	17.6	Which indicates that all births were not reported.
Greeley	9,127	236	25.8	While this report indicates that Greeley County, by a little more energy, would be giving satisfactory results, on the other hand, we do not know of more than one, or possibly two counties in the state, that give us as much trouble as does this county. As for our part, we are willing to make the reporting of births as convenient to the physicians as lies within our power. On the other hand, unless we can receive hearty co-operation, the result is bound to be of a negligible quantity. While our remarks apply to the county as a whole, there are certain parts that give us absolutely no trouble, and other parts where some of the physicians co-operate excellently. But, as stated above, with the possible exception of two or three counties—and for its size we except no county—do we have as much trouble as we do with this county.
Hall	22,881	540	23.6	Which indicates that all births were not reported.
Hamilton	13,557	375	27.6	On the whole, this county does very well, although Aurora could give us considerably less trouble, which would be greatly appreciated at this office.
Harlan	9,738	252	25.8	This reported birth rate is just a little too low.
Hayes	3,251	82	25.2	Considering how sparsely settled this county is, the record is remarkable, but by no means are we getting all of the reports.
Hitchcock	5,495	121	22	Which indicates that all births are not being reported.
Holt	18,201	401	22	Which indicates that all births are not being reported.
Hooker	1,413	24	16.9	If the department could be advised of some method of obtaining more complete records from this county it would be greatly appreciated.
Howard	11,135	288	25.8	Just a few more births reported from this county would put us in a position where we would be able to truthfully say that the results are satisfactory.
Jefferson	18,172	411	22.6	Which indicates that all births are not being reported.
Johnson	10,187	243	23.8	Which indicates that all births are not being reported.
Kearney	9,106	185	20.3	We do wish it would be possible to obtain better co-operation from this county. While at certain points the co-operation is all that could be expected, and while at others possibly 50% are co-operating, we see no reason why we cannot get complete records. It is not a sparsely settled county, and therefore better co-operation is earnestly solicited.
Keith	5,084	93	18.2	Which indicates that all births are not being reported.
Keya Paha	3,748	55	14.6	While the sparsely settled condition of this county is, to a great extent, responsible for our missing between 40% and 50% of the births occurring therein, on the other hand, Hayes county, under almost similar conditions, is reporting considerably more of its births.
Kimball	2,886	70	24.3	Which indicates that all births are not being reported.
Knox	21,566	419	19.4	It would be greatly appreciated if this county would exert more energy and better efforts on this important work. It must be realized that this is a duty the physician owes the patient. Possibly some misunderstanding as to the exact method to pursue is to an extent accountable for the faulty reports from this county. We earnestly solocit better co-operation, and would ask that if local registrars are not satisfactory we be informed.

County	Population Estimated	Births Rep't'd Number of	Per 1000 Birth Rate	REMARKS
				Please do not always wait for the local registrar to call, as the law requires the physician to file the reports with the local registrar. For fear that the profession may take this as criticism applied individually, we beg to state that it is greatly appreciated that certain physicians of Knox County are rendering more than their part in co-operating to make this work a success.
Lancaster	80,953	1,854	22.8	Which indicates that all births are not being reported.
Lincoln	19,092	418	21.3	While the reported birth rate from this county seems to indicate that they are doing not quite fairly well, but bordering on same, still, considering that the population is of considerable size, after Greeley County, we do not know of a county that gives us as much trouble as does Lincoln County.
Logan	1,969	59	28.4	The co-operation obtained from this county is really all that can be expected.
Loup	2,892	42	14.8	Which indicates that not all births were reported.
McPherson				We are unable to give any definite figures from this county in the way of birthrate for the reason that the 1910 census included what is now Arthur County. However, there were 26 births reported.
Madison	20,797	507	24.3	Which indicates that all births were not reported.
Merrick	11,275	243	21.5	Which indicates that all births were not reported.
Morrill	4,584	110	23.9	Which indicates that all births were not reported.
Nance	9,486	205	21.5	Which indicates that all births were not reported.
Nemaha	13,095	284	21.6	Which indicates that all births were not reported.
Nuckolls	13,499	256	11.5	Just what is the matter with Nuckolls County, we are unable to decipher. We know that reports from Superior are very poor. Still, on the other hand, here are certain places in this county that are rendering all the co-operation that anyone could possibly expect.
Otoe	19,323	445	23	Which indicates that all births were not reported.
Pawnee	10,582	234	22.1	Which indicates that all births are not being reported.
Perkins	3,258	83	25.4	We believe if it would be possible to obtain in this county the births not attended by physicians that we would be in a position to state that the county is reporting all of its births.
Phelps	10,451	197	18.8	We strongly recommend that this county display more energy in this direction.
Pierce	11,458	305	26.6	We have very little difficulty with Pierce county.
Platte	20,006	541	27	We believe everything is running smoothly in this county.
Polk	10,521	273	25.9	Just a little more effort is required here.
Red Willow	12,136	275	22.6	Which indicates that all births were not reported.
Richardson	17,448	455	26	Richardson County is co-operating quite nicely, but it only indicates that failure to report a birth now and again puts a county in a position where it cannot be considered to be doing its part. While all parts of this county seem to be working fairly well at this time, still there has been a time when some parts, like Salem, have been giving very little attention to this matter.
Rock	4,275	81	18.9	We are convinced that births unattended by a physician and not reported are responsible entirely for this condition.
Saline	17,866	403	22.5	Which indicates that all births were not reported.
Sarpy	9,426	117	12.4	It is strongly recommended that certain physicians in this county take a greater interest in this matter.
Saunders	21,179	454	21.4	Which indicates that all births were not reported.
Scotts Bluff	12,995	493	37.9	This county has increased considerably in population, and therefore our figures are not of very great value.
Seward	16,055	411	25.5	Juts a little more effort is required in this county.
Sheridan	8,361	270	32.2	This county, during the year 1918, owing to the fact that it contained the potash fields, considerably increased in population, and therefore our figures are by no means accurate.
Sherman	9,654	228	23.5	Which indicates that all births were not reported.
Sioux	8,431	68	8	We do not consider it worth very much of an effort to comment on the results obtained in this county, excepting that it may be considered by some as an indication of inefficiency on the part of physicians, and therefore we desire to call attention to the fact that the enormous length of this county from north to south, and its sparsely settled condition is, to a great extent, responsible for this condition, and it would be greatly appreciated

County	Estimated Population	Number of Births Rep't'd	Birth Rate Per 1000	REMARKS
				if someone familiar with conditions could advise this department as to the method to pursue to bring birth reporting in this county up to an efficient point.
Stanton	8,006	206	25.7	A little more effort is needed at this point.
Thayer	15,095	328	21.7	Which indicates that all births were not reported.
Thomas	1,639	52	31.7	The co-operation received from this county is about all that anyone could expect, and while their birth rate seems to be high, it may be due to an extra increase in population, that is, an increase above the normal.
Thurston	10,448	267	25.5	Just a little more effort is needed in this county. In this connection it might be well to state that after an almost complete investigation, we came to the conclusion that the Indian births unattended by physicians, and even some attended by physicians, were not being reported, but we are happy to state that we have made arrangemnts with the Census Bureau at Washington as well as the Bureau of Indian Affairs, to send us records of all births of which they have any knowledge. In this connection it might be well to state that Indian births are invariably registered at the Indian agency for tribal rights, and in this way it is hoped that complete records will be obtained.
Valley	11,112	265	23.8	Which indicates that all births were not reported.
Washington	9,502	277	21.7	Which indicates that all births were not reported.
Wayne	10,821	250	23.1	Which indicates that all births were not reported.
Webster	12,312	271	22	Which indicates that all births were not reported.
Wheeler	3,036	36	11.8	We do wish there was some way to get complete reports from the town of Ericson.
York	19,129	460	24	Which indicates that all births were not reported.

Table 3.

YEAR	Live Births Named	Live Births Unnamed	Still Births Named	Still Births Unnamed	Total
1912	13,213	13,182	56	659	27,110
1913	No check				
1914	8,773	17,266	115	564	26,718
1915	8,388	17,261	41	579	26,269
1916	8,157	16,991	45	586	25,779
1917	10,803	14,693	54	344	25,894
1918	24,255	6,400	86	681	31,422

We are sending out to the mother of each child whose birth is reported, including the name, a book entitled, "Your Baby—How To Keep It Well," which is a postnatal book to a large extent. Had the writer remained, it was his intention to get out a prenatal book for general distribution. That the book "Your Baby—How To Keep It Well" has done some good we believe we are justified in stating, and it is mentioned in connection with the name of the child for the reason that every effort is made to get the name, and the book is sent as soon as the name is received, which gives a check. If a newly born child is in a home and they have not received the book, it indicates that the birth has not been reported. In certain communities where this work is going on of ascertaining whether or not the parents have received the book, and if no book has been received, the birth is then reported, very satisfactory results are obtained.

We are not relying so much at present on the local registrar sending in the name of the child, but are sending out the cards direct from this office, with a letter to the mother requesting that she send the name to us. Results, as the above figures indicate, have been satisfactory, and while by no means complete, still the matter shows improvement, and we believe that after birth registration comes into its own in this state, when it is given more attention that it is even at the present, and when the people realize more fully the importance of same, that taking the foundation that has been built, possibly 95% of the names will be received. This, of course, exclusive of stillbirths, because it would be unreasonable to expect that all stillborn children will be named. That there will be a small percentage of names that any department will be unable to receive is true, still an improvement can exist over the present, and this in face of the fact that it has been considerably improved over the system of having the local registrar send in the name.

The hearty cooperation of the profession is solicited, not only in reporting births occuring in their practice, but by having others become interested, so that the work can be carried on to better advantage in the state.

Quite often the question is asked why Nebraska is not in the registration area as recognized by the United States Census Bureau. The answer is because we are not receiving 90% of our births. A casual glance at the records of maternity homes and churches given above would indicate the utter absurdity of having the Census Bureau check us up at present, and taking the state as a whole and all conditions and circumstances into consideration, we believe that the affirmation that the best we can figure is a reported birth rate of 80% is justified.

Climate in the Treatment of Tuberculosis.*

Max Biesenthal, M. D., Chicago, Ill.

By the establishment of local sanitoria for tuberculosis in practically every state of the Mississippi valley, one might draw the conclusion that the old question as to the value of climate in the treatment of pulmonary tuberculosis had been definitely settled. I personally do not believe that the problem has been fully solved for either the medical profession or the laity. I have no apology to make for bringing this oft discussed subject before this conference.

Instead I am firmly of the belief that the present time is most propitious for a rediscussion. "To send or not to send" is not by any means a settled problem. In spite of the increase in the number of local sanitoria, medical men of the west report greater numbers of arriving consumptives than ever before. These patients leave home either on the advice of their family or their medical attendant.

Webb, Sewell and others are of the opinion that increased haemoglobin content and certain white cell changes occur in the blood of those living in higher altitudes and believe that these changes have a most beneficial value in tuberculosis. On the other hand, we have the clinical statistics of local sanitoria and of patients treated in their own homes that apparently prove that climate, altitude, or any meteorological changes are of no value as therapeutic agencies in the Great White Plague.

It is of more than passing interest to note that while many doctors of the eastern and middle-western states advise all their tuberculosis cases to enter local sanitoria; yet when the doctor himself becomes ill he takes the first train departing for Colorado or New Mexico. Have you ever given this a thought? Have you ever noticed the rarity of "physician" given as a vocation in the yearly reports of local institutions? Have you ever noticed or do you know that the vast majority of the resident staffs of institutions and the practising physicians of the west are "Lunger's?" Apparently what is sauce for the goose is not sauce for the gander as the saying goes.

It is with this thought and with recent personal observations that I wish to present my views on the subject assigned to me. In spite of the fact that I am a medical director of a local institution or that I am a staff physician to a tuberculosis hospital, I believe that there is a value to be given to the climatic treatment of tuberculosis. That value I place at 10% to 15% for both a more rapid recovery and a permanent cure. This statement is based on my experience in the work. But do I, with the belief I hold in the matter send each patient diagnosed as tuberculosis to the western states? And if not—why not?

First, we will take up the question of extent of lesion and the general condition. One of my good friends in Denver firmly believes that each and every case of pulmonary tuberculosis, irrespective of stage of disease or physical condition should immediately be sent to Denver. Fortunately he has few followers in this teaching—even the people of his own town disagree with him.

Whatever advantage climate may have, no far advanced or acutely ill patient should ever be advised to leave his home. For while it is true that every now and then we hear of an individual who arrived in Colorado on a stretcher and is now doing a hard day's work, yet we do not hear of the far greater number who in language of the army have truly "gone west." Dead men tell no tales. No matter what may be the financial status, your personal belief, the wishes of the family, do not advise sending from the home territory the advanced consumptive. Only too often is this class of case sent far from home only to die away off in a strange land.

Therefore without question only early or apparently favorable moderately advanced case should go. But shall all of these be sent? Not by any means. If this be done, there would be multiplied the sad scene witnessed by me only two months ago in Denver. A young man had reached that city several months before. He had on arrival about $300.00. This sum he had already spent and now sick and alone he applied for admission to one of the Denver sanatoria. This institution was filled to capacity and had a long waiting list. He could not be accepted.

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*Read at the Mississippi Valley Conference on Tuberculosis at Des Moines, Iowa, Sept. 23d, 1919.

Then it developed that he had had a similar experience at four other places. The number of beds available, either free or for a small renumeration is very small and furthermore in most places these are reserved for some organization or sect. This man must continue to live in the cheapest of rooming houses or go back home. The west had been held out to him as his only hope for life. To go back will ever mean to him that all is lost.

What I am now going to say you have heard oft before. You may not be personally at fault; yet this gospel has not reached the great mass of the profession and the laity. Do not send to distant regions a patient simply because he is tuberculous. Only last October there came forth from the Southwestern Tuberculosis Conference the appeal against sending indigent consumptives to the west and southwest.

Furthermore I do not believe in sending patients from home without definite instructions as to what he must do on his arrival. This must include the consulting of a physician or entering at once that institution previously selected as his future residence. Never send your patient away with the blanket advice—Mr. Jones if I were you I would go to Denver.

What then is to decide the question whether to advise your patient to go away or enter a local institution. The answer is dependent on various factors. Remember that with a few exceptions, the western man does not believe climate is everything in the cure of tuberculosis. That other considerations enter into the decision and that only too often they outweigh the 10% to 15% advantage climate may have and instead of doing well be worse off than at home.

First we must consider the question of finances. If an early incipient has not the funds to properly maintain himself for at least nine months to a year, do not send him west. A more advanced case should expect to remain away from one to two years. That to live properly, eat nourishing food and have medical attention he will need from $20.00 to $30.00 per week. The scale of living has increased there as well as here. And furthermore do not send him away with the advice to get light outdoor work. There is no such thing in the west.

Climate can not take the place of food. Climate in a small dingy room does not exceed in value the home air of a sleeping porch. Financial worry and its resulting state of mind never helps and always supercedes any good results that a change of residence might give. It is therefore my belief that a case physically suitable and financially able, should be given the advantage of that added percentage that climate does give.

Never send from home one who is likely to get homesick or is incapable of adapting himself among strangers. Retrogression in many of these patients is due undoubtedly to nostalgia. For the family to visit them is usually impossible and the early return of the afflicted one becomes a necessity.

From experience I believe that elderly people are best off at or near their home. Nostalgia and the effects of altitude appear to act as adverse agents and as a result they rarely do well. I also do not think it wise to send young girls unaccompanied to the west unless provision has been made for their admission to a sanitorium. The possibility of moral delinquency must always be considered.

If you have a free bed in a properly equipped institution in the west, and with it a local organization behind the individual, then these do substitute the matter of personal means. But these places limit their admissions to the apparently curable and should not be asked to take advanced or acutely ill patients.

It is not right for us to impose a greater burden on the western states by sending more absolutely unsuitable tuberculous patients than they now carry. Sending advanced cases or indigent persons is not good practice either from the stand point of medicine or of sociology. Let us by practice and by teaching help stamp out this evil.

I would suggest as your basis for a decision in any of your cases my instructions to the college students. Everything else being equal, a man has a 10% to 15% better chance of getting well in the west than he has in his home climate. By "everything else" I mean those reservations as to stage of disease, finances, etc. If we do this then justice will be done to your patient—to the subject of tuberculosis—and lastly to the muchly imposed upon western states.

THE NEBRASKA STATE MEDICAL JOURNAL

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In Retrospect.

The year is drawing rapidly to a close and the publishing committee of the Journal of the Nebraska State Medical Association again looks back over the year and checks up their work and its results.

We entered the year with some apprehension. Advertisers seemed inclined to conservatism. The future of the Society on the return of its members from government service was also uncertain. The history of the Journal from its beginning had been better than we would have dared to prophesy and our worst troubles had never come. Therefore we went forward with courage for the future.

We find that in the ten months of this year our income from advertising has been about one thousand dollars more than for the twelve months of 1918, while the expense for publication for ten months of 1919 has been $705.00 more than for the twelve months of 1918, showing a safe balance as probable at the end of the year. This notwithstanding the fact that during 1919 we moved to more commodious offices which should be more attractive and helpful to members of the society in their visits to Omaha. This move increased somewhat our expense. The income from our advertising beginning with January, 1920, will, according to contracts already made, promise about 15% better than for 1919. The membership of the State Association is today averaging larger, with fees more promptly paid than ever before. We believe that the Journal has demonstrated its usefulness to the State Association and to the people of our state, for inasmuch as it makes the State Association stronger it makes its members more useful to their clientele. We ask that the membership give a hearty and enthusiastic support.

From our membership we should not be obliged to seek material for publication but should have a surplus always on our desk. The committee feels very happy and a degree of pride in the fact that the Association has established and owns its own Journal. It earnestly desires that each member of the Association shall feel a like pride and a like happiness and that their enthusiasm shall give to the Journal the virile support which is the basis of success of every publication which is the organ of an association.

We wish every member of the Association a most happy and prosperous New Year and for the Association itself we wish to prophesy that each year may be the best of all the years in its history.

Sale of Medical and Surgical Supplies by the War Department.

The house of representatives on November 5th passed a joint resolution empowering the secretary of war to sell to dentists the surplus dental outfits held by the war department at the close of the war. At the time this resolution was approved an attempt was made to embody in it a provision authorizing the sale of surplus surgical supplies and instruments to physicians and hospitals in this country. The addition of this paragraph to the resolution was opposed by Mr. Kahn of California who stated in answer to a question by Mr. Kitchin: "I understand that there has been no request made by the doctors for the sale of surgical supplies. The war department has sent to the committee on military affairs a bill asking that surplus medical supplies be turned over to the Red Cross." Mr. Kitchin endeavored to amend the resolution to include the sale of medical and surgical supplies but without success.

We all know what it means to buy medical supplies and especially surgical instruments at this time. Instruments are of poor quality, prices are high and at times it is impossible to get what one wants at any price. How much of a stock the war department has on hand we do not know. They have an excess of 5000 dental outfits in storage. Also medical supplies to the value of $100,000,000.00 have been turned over to the Red Cross abroad. It is thus fair to assume that the amount in this country now in storage and representing surplus stock is considerable.

As one of the objections to incorporating the authority for sale was stated to be the fact that doctors had not requested it, this can be easily remedied if the physicians of this state at least write to congress and the secretary of war requesting the sale of these supplies to the medical profession and hospitals of this country.

The active participants in the discussion were Dr. Caleb R. Layton, Mr. Kitchin, Mr. Kahn, and Mr. MacGregor, all members of congress. A letter addressed to them at the House of Representatives, Washington, D. C., will reach them. The Secretary of War being the head of the War Department has a good deal to say in the matter and can be reached by a letter addressed to the War Department, Washington, D. C. It will take but a few moments to write such letters and they will afford expression of the opinion of the medical profession in the matter.

If the present scheme of the War Department is carried through the supplies will be given to the Red Cross for use in foreign countries and our own people will be forced to continue to purchase inferior supplies at inflated prices while foreign countries will reap the benefit of our benevolence. Charity begins at home.

Registration of Births.

In this issue of the Journal the article by Dr. Wild the former commissioner of Health of our State will prove illuminating to those who read it carefully.

It explains clearly and concisely the reason why the State of Nebraska is not admitted to the registration area as recognized by the United States Census Bureau. The state should be in this registration area and it is distinctly up to the physicians of the state to see to it that it is put there. There is no dodging the responsibility or begging the question or blaming it on someone else. Each physician of the state can help the State Department in accomplishing its aim and to put the state on the map in this as it is in nearly everything else. Blanks can be obtained from the Department of Health at Lincoln and the Department stands ready to appoint a registrar where one is needed.

The question comes up of deliveries by midwives and women who have no doctor in attendance. This can be solved by sending in a certificate in any case in which one has not been sent in.

Very few infants go through the first year of life without the mother needing medical advice at some time. Further it is not necessary that the physician attend a birth in order to report it.

At any subsequent time the birth can be reported as soon as the lack of certification has been determined. It might therefore be a good rule to make it a practice to inquire of the family whether the birth of an infant, has been reported whenever called in to take care of a baby. If this were done many of the midwife cases and births without medical attendant would be picked up. It will take a few minutes time in each case but it will be time well expended.

Venereal Diseases.

The war brought before the people of this country the fact that venereal diseases were a menace to its health and being such that they decreased its material prosperity because a man or woman disabled by one of these diseases is an economic liability rather than an asset.

Venereal diseases have as a result been brought out into the light by a campaign of publicity. Much of the prudery behind which they hid and under which as a cloak they grew and throve has been wiped away and the public is recognizing them for what they are —disabling, crippling diseases that fill our jails, insane asylums and hospitals for the blind and incurable with inmates.

The United States Public Health Service, after mature deliberation and consultation with authorities who have made exhaustive studies of the best means to combat the problem, has appointed a representative in each state to cooperate with the Health Department of that state in the fight against the venereal problem. It has decided also that venereal diseases shall be made reportable. At first by number and should the patient subsequently stop treatment before cure, by name and address in order that such patient can be traced and properly taken care of.

In this work the U. S. P. H. S. must rely upon the cooperation of the individual physician. In this state information as to the progress of the campaign has been distributed to the physicians of the state. Blanks have also been distributed on which reports of cases are to be made. The federal government and state have done and are doing their part and it is only just that the physicians of the state do theirs and cooperate to the best of their abiliy, irrespective of their personal ideas in the matter. We have heard murmurings of state control of medicine in this country as it has come in others, notably England. These murmurings are becoming louder as time goes on and one, if not the greatest, reason for this is the difficulty encountered by the authorities in obtaining proper cooperation and assistance from the physician in achieving the results at which they aim. If this assistance be forthcoming and is given gladly the agitation for state control of medicine will be unnecessary and will consequently perish from inanition.

It is therefore necessary for all physicians to read carefully the information given and follow accurately the rules laid down in the case of venereal diseases.

STATE NOTES.

Dr. Philip H. Bartholomew of Blue Hill, Neb., has been appointed to succeed Major Leader as head of the department in the venereal disease work in Nebraska. He will take charge of the work Dec. 1.

Dr. H. M. McClanahan has regained his health and resumed his practice.

President elect Dr. H. W. Orr has named on our program committee for 1920 Joseph M. Aikin, LeRoy Crummer, Frank M. Conlin, H. E. Burdick, Charles R. Kennedy.

COUNTY SOCIETY NOTES.

The ninth annual alumni clinical week of the University of Nebraska College of Medicine was held in Omaha, Nov. 17 to 21, 1919. Clinics were held at the University, Methodist and Clarkson Hospitals each morning. Noon day luncheons were followed by the round table discussions. The attendance was very gratifying, there being over 50 of the "old grads" back.

At the annual meeting held Thursday at the University Club the following officers were elected for 1920: President, C. R. Kennedy, Omaha; first vice president, J. C. Meisenbach, Staplehurst; second vice president, J. C. Davis, Jr., Omaha; secretary-treasurer, W. N. Anderson, Omaha.

One of the very interesting and instructive features of the program was a moving picture film on Diagnosis of Tuberculosis from the Army Medical School, which was explained very thoroughly by Dr. W. N. Anderson.

The smoker which was held in the University Club, Wednesday evening was attended by about 100 members.

The meeting was a success both from the standpoint of attendance and the value obtained by those physicians who attended. The officers plan for an enlarged and more valuable program in future meetings.

The Inter-County Medical Society of Chase, Dundy, Hitchcock and Hayes met at Stratton, Neb., in October, 1919. The entire program was given in honor of the returned soldiers. Capt. George Hoffmeister gave a very ably prepared paper and charts illustrating the evacuation of disabled soldiers from the front to the various dressing stations and basic hospitals. Capt. Wood in his quaint and humorous way, gave us a real life picture of a country doctor entering the military service of Uncle Sam. We have a war record from these four counties of six out of fourteen entering the service, or 43%. There is no better feeling toward our returned medical soldiers anywhere than in our society. Three of our society are moving or giving way in practice to returned medical men. After the program we were shown through the new and most modern hospital in western Nebraska by Dr. W. E. Stewart, and given luncheon in the new and most modern home of Mrs. W. E. Stewart. President, A. H. Thomas, Trenton; secretary-treasurer, E. M. Stewart, Imperial.

Minutes of the Meeting of the Scotts Bluff County Medical Society.

Lincoln Hotel, Scottsbluff, Neb., October 27, 1919.

The society was called to order with Dr. F. W. Plehn in the chair.

The minutes of the September meeting were read, corrected and approved. Dr. Hodnett moved that the routine business be dispensed with and the society proceed with the scientific program.

Dr. Clyde A. Roeder of Omaha, gave a talk on "Goiter in its various pathological conditions and corresponding treatment." The subject was fully discussed by all members present.

Dr. E. T. Manning of Omaha gave a talk on "Vaccines and Serums," their practical use by the general practitioner. The author described the essential differences between vaccines and serums and clearly pointed out the applicability of each. Free discussion followed.

Dr. W. C. Finnoff of Denver presented the subject "Foreign Bodies in the eye and their dangers," simplifying his subject so that it could be of practical importance to the general practitioner. Dr. Finnoff answered many questions, going quite fully into complications following the removal of foreign bodies.

The following applications for membership were reported upon favorably by the censors: Dr. Wilbur Lowe, Sunrise, Wyo.; Dr. Merle Barbee, Torrington, Wyo.; Dr. S. G. Allen, Scottsbluff, Neb.; Dr. N .H. Rasmussen, Scottsbluff, Neb., Dr. Thomas J. Vanderhoof, Scottsbluff, Neb.; Dr. Judd Strong, Scottsbluff, Neb., by transfer from Buffalo county.

The above members were elected to membership.

Dr. C. B. Conoway, Torrington, Wyo., was reinstated to membership by the payment of the 1919 dues.

Dr. Allen motioned that a vote of thanks be extended to the visiting physicians by a rising vote. Seconded and carried.

Adjournment.

J. N. STOOPS, Secretary.

Meeting of the Omaha X-ray Society.

October 29th, the Omaha X-ray Society held a meeting in the Omaha Athletic Club. Dr. Pritchard of Battle Creek, Mich., gave a very interesting discussion on diseases of the chest, viewed from the clinical and roentgen standpoint. Dr. James T. Case, president of the American Roentgen Ray Society, gave a very interesting discussion of the roentgen findings in disease of the gastro-intestinal tract, disease of the duodenum and of the lower ileum and colon. Dr. Case called special attention to the roentgen findings in the diagnosis of diseases of the gallbladder and showed some excellent lantern slides of cases with diverticula of the duodenum ileum and colon. He exhibited some rare anomalies of the biliary passages, one being a double papilla of Vater. He stated that stasis in the terminal ileum is sometimes due to an imperfect ileocecal valve accompanied by reflex antiperistalsis pointing to pathology in the left colon.

Dr. A. F. Tyler of Omaha showed plates illustrating the technique for injecting oxygen gas into the peritoneal cavity, making it possible to visualize the pelvic viscera, kidneys, gall bladder and bands of adhesions from the parietal peritoneum to the different viscera.

A banquet attended by fifty physicians from Omaha and surrounding cities preceded the scientific program.

Case Reports and Clinical Notes.

Arthritis of the Wrist.

H. Winnett Orr, M. D., F. A. C. S., Lincoln.

Lt. A. W. A. This discharged officer came to me on September 3, 1919. Personal history was negative up to August 23, 1918. At that time he had arrived at Hoboken on the way to France. He was taken sick at Camp Mills and was sick on the train. He was put on board the boat, however, and remained there one day before being taken off. He had acute inflammation of both knees and the right wrist and was diagnosed acute rheumatism. His acute illness dated from that time for ten weeks, during which time he was unable to leave his bed. Then he was able to be up and remained only convalescent until January 2, 1919, at which time he was transferred to United States Army General Hospital No. 1. At about this time he was anesthetized and the wrist forcibly dorsiflexed and put into a cock-up splint. He wore this splint, having it removed daily for baking and massage. The knees had entirely recovered. During this period he also had five teeth removed, which by X-ray were shown to have diseased roots.

On March 19, 1919, he was discharged with 25% disability. When seen on September 3, 1919, the wrist was flexed at an angle of about 20 degrees from a straight line with the arm. He was unable to dorsiflex his wrist or to fully close thumb and fingers. He had only about five degrees of motion. It was recommended that the wrist be dorsiflexed under an anesthetic, and that the articular surfaces be removed so he would have a stiff wrist with twenty-five or thirty degrees dorsiflexion. Military authority for this procedure was granted and the operation was done September 9, 1919. An incision was made over the dorsum of the lower end of the radius toward the radial side. The articular surfaces were removed and the hand and arm put in plaster paris at about the angle indicated. Healing was rapid and complete in about ten days. On October 9 an official report was made that the patient was ready to return to his work, but that a splint would be required for from six to eight weeks longer. The full cock-up splint, which include all fingers was removed on October 1. He will be permitted to resume his occupation which is mostly desk work, with his arm supported by a short cock-up splint. Upon discharge on October 9 finger and thumb flexion was complete. He was free from pain and except that there will be limited motion of the wrist in the dorsiflexed position he has made a perfect recovery.

This procedure corresponds, of course, to resection of the knee joint in chronic tuberculous arthritis. Ankylosis is the object to be sought. The stiff joint with sound healing furnishes its own guarantee against recurrence of the acute inflammatory process. It is not necessary to point out the importance of avoiding mixed infection in such cases, but post operative splinting in exactly the position desired with perfect immobilization until healing has occurred is just as important as the operative procedure itself. The splinting must be continued for several months, and pains must be taken that the neighboring joints are not immobilized too long as an undue amount of stiffness may result. (This is especially true of fingers). At the same time attempts at motion followed by pain, redness or swelling indicate that further rest and quiet must be observed. These attempts at motion, however, must be made at intervals of a week or ten days and persevered in to secure the greatest possible amount of function.

GREETINGS—
FOR THE
NEW YEAR
To All
MEMBERS

The Nebraska State
Medical Association

Our 1920 Convention Program.

Our Constitution and By-Laws for the Nebraska State Medical Association, Chapter 8, Section 2, reads as follows:

"The Committee on Scientific Work shall consist of the Secretary, who shall be Chairman, and the Chairman and Secretary of the Sections, who shall determine the character and scope of the scientific proceedings of the Association of each session subject to the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Fifteen days previous to each annual session it shall prepare and issue a program."

For our 1919 Convention your committee arranged a general scientific program. That plan was endorsed by the House of Delegates and ordered repeated for our 1920 Convention. Our 1919 arrangement organized the House of Delegates Monday evening and held the second session Tuesday morning and the third and last session Wednesday morning. The Convention was formally opened at 9 a. m. Tuesday morning and immediately followed by the Scientific Program. Tuesday evening was devoted to entertainment initiated and managed by the Committee on Arrangements. In compliance with the expressed wish of our President, his address was delivered Tuesday evening after the banquet. Immediately following the meeting of the House of Delegates Wednesday morning, the whole day was devoted to completing the Scientific Program.

Your program committee will endeavor to arrange the material submitted by our members with the view of affording the greatest good to the greatest number. We have 1120 members enrolled. Titles of papers should be typed or legibly written in long hand and mailed prior to February 15, 1920, to the Nebraska State Medical Association, Program Committee, office 519 McCague Building, Omaha, Neb.

Harmony.

To get hold of a thing that is big enough to get hold of us, is a magnificent possession.

To be elected secretary of a county medical society, affords the opportunity to develop self, in magnifying the office. It is a valuable educational asset that an increasing ration of our Nebraska secretaries are appreciating.

Our personal equation is attractive or repellent, just as we adjust ourselves to existing conditions. We cannot by caustic criticism change the viewpoint of an opponent; indeed, his opinion may be utilized to our advantage. If not of value to us the cause we advocate has not been weakened by our attitude toward the opposition.

The United States has only one doctor to every seven hundred persons. Furthermore, the number of doctors seems to be decreasing in proportion to the population, which is increasing by some two million per year.

All inquiries concerning matters pertaining to the State Department of Health or the Board of Medical Examiners, should be addressed to the Department of Public Welfare, State House, Lincoln, Neb. In this department the routine work of all the examining boards of the state has now been centralized.

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